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**MARCH 23, 2022**

**AGENDA ITEM 10  
INFORMATION ITEM**

**SCHOLARSHARE INVESTMENT BOARD**

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***Background***

The ScholarShare Investment Board (SIB or Board) and its investment consultant, Meketa Investment Group, Inc. (Meketa), monitor all portfolios in ScholarShare 529 (Plan) in accordance with the ScholarShare Monitoring Procedures and Criteria (Procedures) adopted by the Board.

In this item, SIB will review and discuss the “Investment Performance Report” (Exhibit A) for the Plan for fourth quarter 2021, provided by TIAA-CREF Tuition Financing, Inc. and both the “Inflation: Current Environment” summary (Exhibit B) and “Investment Performance Status Report” for fourth quarter 2021 (Exhibit C), provided by Meketa. Exhibit C provides comparisons for each underlying fund allocated to the portfolios used in the Plan to applicable benchmark criteria and labels the current status of funds as “positive,” “acceptable,” “caution,” or “watch.”

For the fourth quarter of 2021:

- 10 underlying funds were in the “positive” status,
- Seven (7) underlying funds were in the “acceptable” status, and
- Two (2) underlying funds were in the “caution” status.

As outlined in its memo (Exhibit D):

- No funds are currently on “watch” status; and
- One (1) fund, the TIAA-CREF Emerging Markets Equity Index Fund (Fund), qualifies for “watch” status, however, Meketa is not recommending that the Fund be placed on “watch” status due to explanation outlined in Exhibit D.

***Presenters***

Jeremy Thiessen, Senior Director, Institutional Investment Strategist,  
TIAA-CREF Tuition Financing, Inc.

Glenn Friedman, Director, Asset Allocation and Investments, TIAA-CREF Tuition Financing, Inc.  
Eric White, Principal, Meketa Investment Group, Inc.

# Quarterly Investment Report

4th Quarter, 2021

BUILT TO PERFORM.

CREATED TO SERVE.

**For Institutional client use only. Not for distribution.**

Before investing in the ScholarShare 529 College Savings Plan, you should consider the investment objectives, risks, charges, and expenses. The information contained in this report is subject to further change and amendments over time. Some changes may occur due to the result of adjustments. For a prospectus containing this and other information, as well as a Participant Agreement and Disclosure Statement, please call 1-800-544-5248 or view it online at [www.scholarshare529.com](http://www.scholarshare529.com). Please read these documents carefully before investing.

TIAA-CREF Tuition Financing, Inc., Program Manager. TIAA-CREF Individual & Institutional Services, LLC, member FINRA and SIPC, distributor and underwriter for the ScholarShare 529 College Savings Plan.



ScholarShare529

# Market Overview: Q4 2021

## Key Themes

- U.S. annualized GDP growth estimates for Q4 were in the 6-7% range, and forecasts call for slower, but still strong, growth in 2022. Market participants continue to keep an eye on high inflation and the uncertain effects that the Omicron variant may have on consumer behavior and business activity.

## Equities

- Many parts of the global equity market had a strong fourth quarter overall, though returns varied by region. In the U.S., Consumer Discretionary and Information Technology sectors both saw double-digit gains and led to positive returns for the U.S. market. Broad baskets of non-U.S. developed and emerging markets equities both lagged.

## Fixed Income

- The yield curve flattened as the shorter end shifted upward and ended December with some of the highest levels seen all year. The core intermediate-term fixed income market had modest returns. The Federal Reserve announced its plan to speed up the pace for QE tapering and expects to begin raising interest rates in 2022.

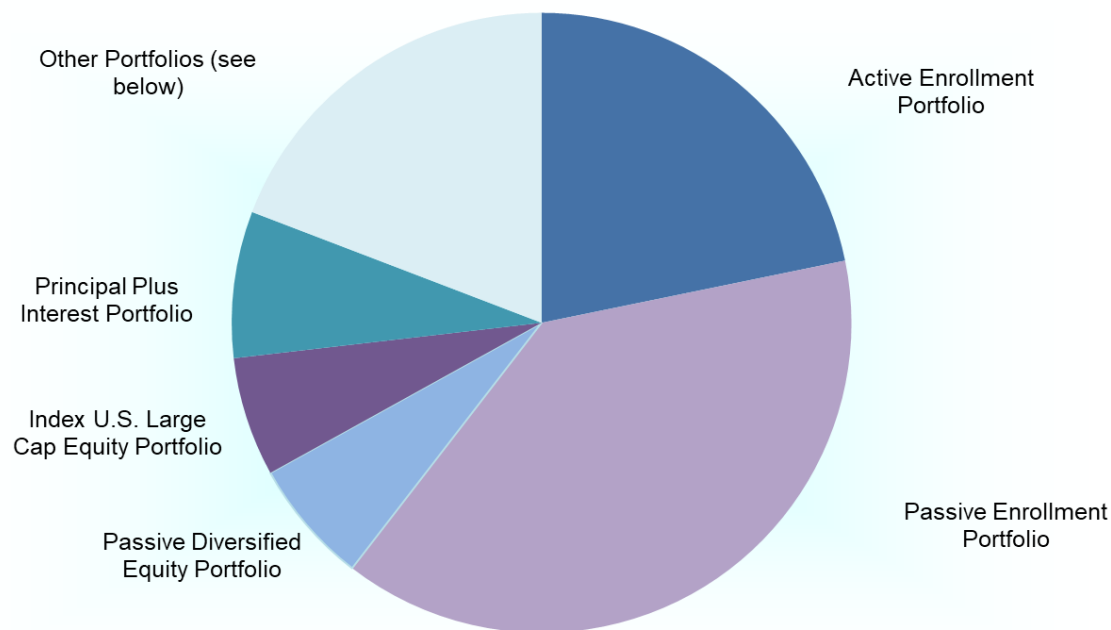
Asset Class	3 Month	1 Year	3 Year	5 Year
U.S. Equities	9.28	25.66	25.79	17.97
U.S. Growth Stocks	11.64	27.60	34.08	25.32
U.S. Value Stocks	7.77	25.16	17.64	11.16
U.S. Mid-Cap Stocks	6.44	22.58	23.29	15.10
U.S. Small-Cap Stocks	2.14	14.82	20.02	12.02
Int'l Developed Stocks	2.69	11.26	13.54	9.55
Emerging Markets Stocks	-1.31	-2.54	10.94	9.87
Real Estate Stocks	16.17	41.30	19.93	12.46
U.S. Investment Grade Bonds	0.01	-1.54	4.79	3.57
Inflation-Linked Bonds	1.54	5.69	6.97	4.46
High Yield Bonds	0.73	4.58	8.56	6.04
Commodities	-1.56	27.11	9.86	3.66
Cash	0.01	0.04	1.00	1.15
<b>Annualized Tuition Inflation Ending as of 2021-2022 Academic Year* (%)</b>				
<b>Educational Institution</b>		<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
National Average Public 4-Year In-state		1.61	1.70	2.12
National Average Private Nonprofit 4-Year		2.15	2.18	2.59
Consumer Price Index, December 2021		7.04	3.53	2.92

\*Data are for the entire academic year and are average total charges for full-time attendance. Tuition and fees were enrollment weighted. SOURCES: CollegeBoard, Trends in College Pricing 2021 and U.S. Department of Labor: Bureau of Labor Statistics

Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth Index; U.S. Value Stocks – Russell 1000 Value Index; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 2000 Index; International Developed Markets – MSCI EAFE Index; Emerging Markets – MSCI Emerging Markets Index; Real Estate Stocks – FTSE NAREIT All Equity REITS Index; U.S. Investment Grade Bonds – Bloomberg Barclays U.S. Aggregate Bond Index; Inflation-Linked Bonds – Bloomberg Barclays TIPS 1-10 Years Index; High Yield Bonds – BofA Merrill Lynch BB/B Cash Pay Index; Commodities - Bloomberg Commodity Index; Cash – Bloomberg Barclays U.S. 3 month Treasury Bellweathers Index  
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# Assets by Portfolio as of Q4 2021

## Total Assets: \$13.1 Billion

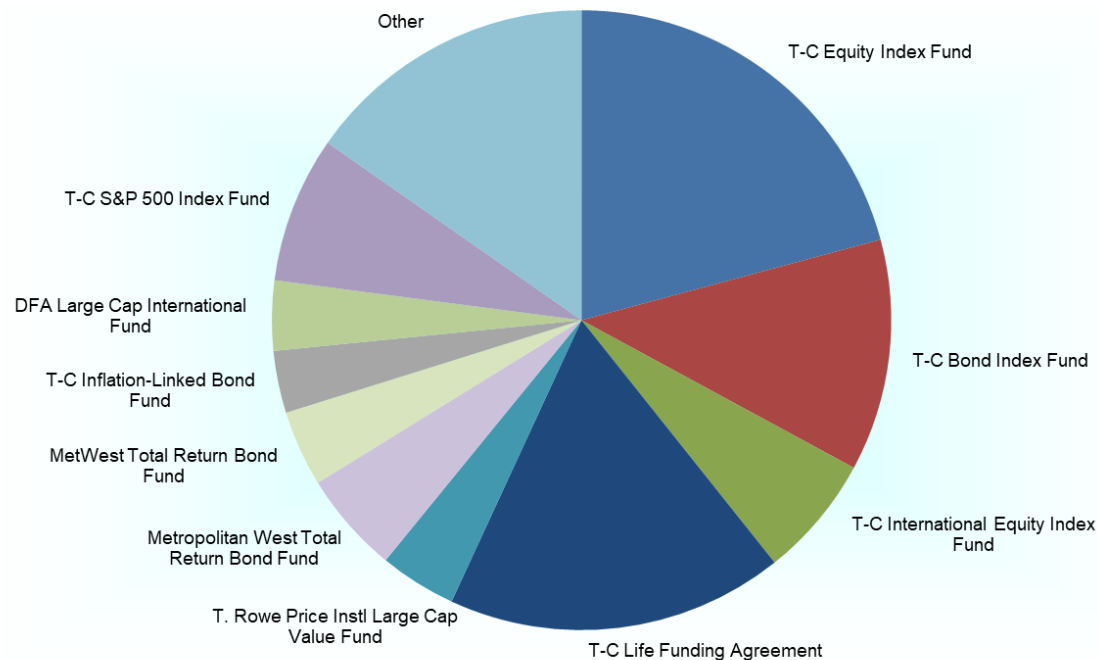


Portfolio	% of Assets	\$ Millions	Portfolio	% of Assets	\$ Millions
Passive Enrollment Portfolio	38.68%	\$ 5,060	Index U.S. Equity Portfolio	6.49%	\$ 849
Active Enrollment Portfolio	21.78%	\$ 2,850	Passive Diversified Equity Portfolio	6.22%	\$ 813
Index U.S. Large Cap Equity Portfolio	7.64%	\$ 1,000	Other Portfolios (see below)	19.18%	\$ 2,510

### Other Portfolios

Principal Plus Interest Portfolio	4.27%	\$ 558	Passive Moderate Growth Portfolio	0.72%	\$ 94
Active Diversified Equity Portfolio	3.42%	\$ 448	Active Moderate Growth Portfolio	0.72%	\$ 94
Social Choice Portfolio	2.33%	\$ 305	Passive Conservative Portfolio	0.50%	\$ 66
Active Growth Portfolio	2.29%	\$ 299	Active Conservative Portfolio	0.35%	\$ 46
Passive Growth Portfolio	1.74%	\$ 228	Active International Equity Portfolio	0.33%	\$ 43
Index International Equity Portfolio	1.23%	\$ 160	Active Diversified Fixed Income Portfolio	0.28%	\$ 37
Index Bond Portfolio	0.73%	\$ 95	Passive Diversified Fixed Income Portfolio	0.27%	\$ 36

# Assets by Underlying Fund as of Q4 2021



Fund	% of Assets	\$ Millions
T-C Equity Index Fund	20.81%	\$ 2,723
T-C Life Funding Agreement	17.60%	\$ 2,303
T-C Bond Index Fund	12.09%	\$ 1,581
T-C S&P 500 Index Fund	7.64%	\$ 1,000
T-C International Equity Index Fund	6.39%	\$ 836
Metropolitan West Total Return Bond Fund	5.31%	\$ 695

Fund	% of Assets	\$ Millions
T. Rowe Price Instl Large Cap Value Fund	4.01%	\$ 524
T. Rowe Price Instl Large Cap Growth Fund	3.96%	\$ 518
DFA Large Cap International Fund	3.64%	\$ 477
T-C Inflation-Linked Bond Fund	3.24%	\$ 424
Other	15.30%	\$ 2,001

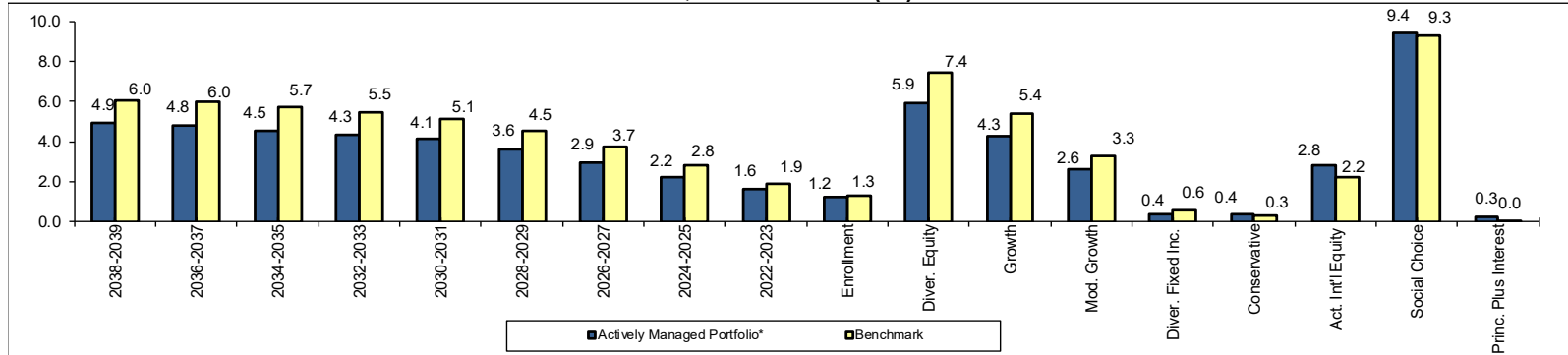
## Other Funds

T-C Real Estate Securities Fund	2.69%	\$ 351
T-C Social Choice Equity Fund	2.33%	\$ 305
PIMCO Income Fund	2.12%	\$ 277
PIMCO Real Return Fund	2.12%	\$ 278
T-C High Yield Bond Fund	1.62%	\$ 211

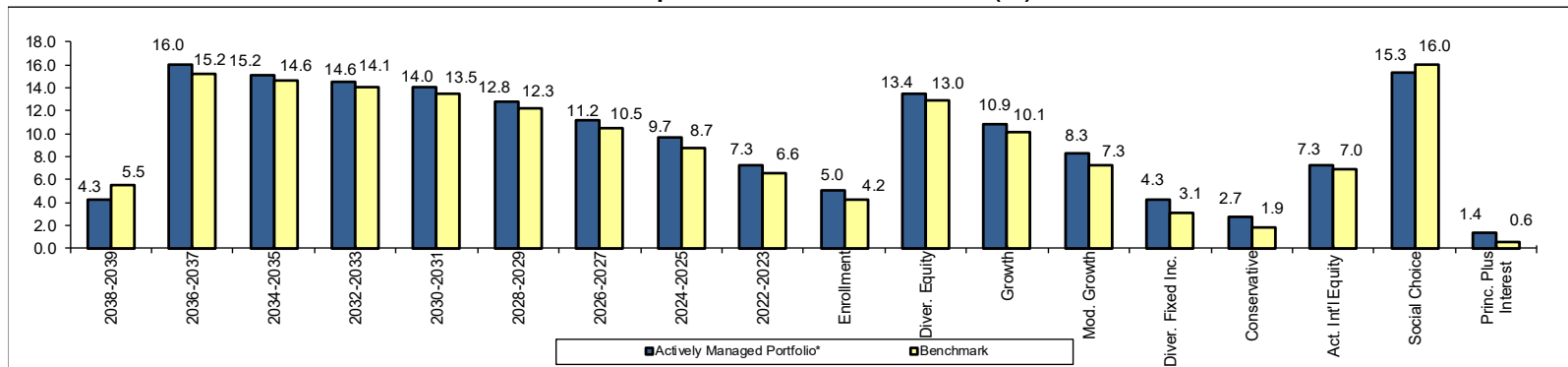
T-C Emerging Markets Equity Index Fund	1.57%	\$ 205
T. Rowe Price Instl Floating Rate Fund	1.06%	\$ 138
DFA Emerging Markets Core Equity Portfolio	0.91%	\$ 119
T-C Quant Small Cap Equity Fund	0.89%	\$ 116

# Actively Managed Portfolios vs Composite Benchmarks Q4 and Since Inception Returns\* (%)

**Q4 2021 Returns (%)**



**Since Inception Returns as of 12/31/21 (%)\*\***



\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/10/11. Inception for most Enrollment Year Portfolios was 1/24/20 (inception for 2038-2039 was 6/11/21).

- The U.S. economy gained 199,000 jobs in December and the unemployment rate declined to 3.9%. Notable job gains occurred in leisure and hospitality, professional and business services, retail trade, and manufacturing.
- Real average hourly earnings of all employees on private nonfarm payrolls decreased 2.4% year-over-year from last December, seasonally adjusted.
- All Active Enrollment Year Portfolios had positive absolute returns in Q4, though trailed their blended benchmarks after fees.
- Contributing most to absolute returns was the TIAA-CREF Real Estate Securities Fund, which returned 15.55% for the quarter.
- While the T. Rowe Price Large Cap Growth Fund underperformed its benchmark by 550 basis points, primarily because of poor stock selection in the Information Technology sector, the TIAA-CREF Quant Small-Cap Equity Fund and DFA Emerging Markets Core Equity Portfolio both outperformed by more than 200 basis points and moderated portfolio underperformance.

# Actively Managed Portfolios vs Composite Benchmarks

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Active Enrollment Year Portfolios</b>							
2038/2039 Enrollment Portfolio Active	4.93%	-	-	-	-	4.30%	06/11/21
Blended Benchmark Returns	6.05%	-	-	-	-	5.48%	
Difference	-1.12%	-	-	-	-	-1.18%	
2036/2037 Enrollment Portfolio Active	4.80%	17.55%	17.55%	-	-	16.01%	01/24/20
Blended Benchmark Returns	6.01%	17.13%	17.13%	-	-	15.22%	
Difference	-1.21%	0.42%	0.42%	-	-	0.79%	
2034/2035 Enrollment Portfolio Active	4.53%	16.80%	16.80%	-	-	15.15%	01/24/20
Blended Benchmark Returns	5.73%	16.39%	16.39%	-	-	14.60%	
Difference	-1.20%	0.41%	0.41%	-	-	0.55%	
2032/2033 Enrollment Portfolio Active	4.33%	15.85%	15.85%	-	-	14.56%	01/24/20
Blended Benchmark Returns	5.46%	15.53%	15.53%	-	-	14.05%	
Difference	-1.13%	0.32%	0.32%	-	-	0.51%	
2030/2031 Enrollment Portfolio Active	4.12%	14.99%	14.99%	-	-	14.02%	01/24/20
Blended Benchmark Returns	5.15%	14.64%	14.64%	-	-	13.48%	
Difference	-1.03%	0.35%	0.35%	-	-	0.54%	
2028/2029 Enrollment Portfolio Active	3.61%	13.48%	13.48%	-	-	12.82%	01/24/20
Blended Benchmark Returns	4.55%	12.98%	12.98%	-	-	12.27%	
Difference	-0.94%	0.50%	0.50%	-	-	0.55%	
2026/2027 Enrollment Portfolio Active	2.94%	11.14%	11.14%	-	-	11.15%	01/24/20
Blended Benchmark Returns	3.72%	10.58%	10.58%	-	-	10.54%	
Difference	-0.78%	0.56%	0.56%	-	-	0.61%	
2024/2025 Enrollment Portfolio Active	2.22%	8.73%	8.73%	-	-	9.69%	01/24/20
Blended Benchmark Returns	2.83%	7.98%	7.98%	-	-	8.71%	
Difference	-0.61%	0.75%	0.75%	-	-	0.98%	
2022/2023 Enrollment Portfolio Active	1.60%	6.31%	6.31%	-	-	7.25%	01/24/20
Blended Benchmark Returns	1.90%	5.47%	5.47%	-	-	6.58%	
Difference	-0.30%	0.84%	0.84%	-	-	0.67%	
Enrollment Year Portfolio Active	1.20%	4.07%	4.07%	-	-	5.00%	01/24/20
Blended Benchmark Returns	1.31%	3.30%	3.30%	-	-	4.20%	
Difference	-0.11%	0.77%	0.77%	-	-	0.80%	
<b>Active Multi-Fund Investment Portfolios</b>							
Active Diversified Equity Portfolio	5.94%	21.70%	21.70%	20.84%	15.56%	13.44%	11/04/11
Blended Benchmark Returns	7.43%	21.57%	21.57%	21.37%	14.94%	12.97%	
Difference	-1.49%	0.13%	0.13%	-0.53%	0.62%	0.47%	
Active Growth Portfolio	4.28%	15.41%	15.41%	16.68%	12.43%	10.87%	11/04/11
Blended Benchmark Returns	5.38%	15.01%	15.01%	16.79%	11.81%	10.12%	
Difference	-1.10%	0.40%	0.40%	-0.11%	0.62%	0.75%	
Active Moderate Growth Portfolio	2.61%	9.37%	9.37%	12.23%	9.21%	8.29%	11/09/11
Blended Benchmark Returns	3.26%	8.57%	8.57%	12.07%	8.55%	7.29%	
Difference	-0.65%	0.80%	0.80%	0.16%	0.66%	1.00%	
Active Conservative Portfolio	0.38%	1.23%	1.23%	3.82%	2.97%	2.73%	11/04/11
Blended Benchmark Returns	0.28%	0.34%	0.34%	3.30%	2.58%	1.86%	
Difference	0.10%	0.89%	0.89%	0.52%	0.39%	0.87%	
Active International Equity Portfolio	2.82%	11.36%	11.36%	13.68%	9.88%	7.28%	11/10/11
Blended Benchmark Returns	2.25%	9.51%	9.51%	13.54%	9.76%	6.95%	
Difference	0.57%	1.85%	1.85%	0.14%	0.12%	0.33%	
Active Diversified Fixed Income Portfolio	0.39%	1.40%	1.40%	6.12%	4.51%	4.25%	11/08/11
Blended Benchmark Returns	0.55%	0.61%	0.61%	5.66%	4.04%	3.14%	
Difference	-0.16%	0.79%	0.79%	0.46%	0.47%	1.11%	
<b>Active Single Fund Investment Portfolios</b>							
Social Choice Portfolio	9.43%	26.39%	26.39%	25.93%	17.90%	15.33%	11/04/11
Benchmark Returns	9.28%	25.66%	25.66%	25.79%	17.97%	16.03%	
Difference	0.15%	0.73%	0.73%	0.14%	-0.07%	-0.70%	
Principal Plus Interest Portfolio**	0.26%	1.06%	1.06%	1.50%	1.44%	1.36%	11/04/11
Benchmark Returns	0.01%	0.05%	0.05%	0.93%	1.09%	0.06%	
Difference	0.25%	1.01%	1.01%	0.57%	0.35%	1.30%	

\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).

\*\*The crediting rate of 1.00% for the TC Life Funding Agreement in the Active Age-Based Portfolio and for the Principal Plus Interest Portfolio is guaranteed through 12/31/22.

# Asset Allocation, Fees, and Performance

Active Enrollment Year Portfolio	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	T. Rowe Price Instl Floating Rate Fund	TIAA-CREF Quant Small Cap Equity Fund	TIAA-CREF Real Estate Securities Fund	DFA Large Cap International Portfolio	DFA Emerging Markets Core Equity I Portfolio	MetWest Total Return Bond Fund	PIMCO Real Return Fund	PIMCO Income Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>56</b>	<b>56</b>	<b>58</b>	<b>43</b>	<b>49</b>	<b>18</b>	<b>39</b>	<b>38</b>	<b>45</b>	<b>50</b>	<b>N/A</b>
<b>2038-2039</b>	<b>50</b>	22.70%	22.70%	2.00%	5.00%	5.60%	19.20%	4.80%	10.00%	4.00%	4.00%	0.00%
<b>2036-2037</b>	<b>50</b>	22.70%	22.70%	2.00%	5.00%	5.60%	19.20%	4.80%	10.00%	4.00%	4.00%	0.00%
<b>2034-2035</b>	<b>50</b>	21.60%	21.60%	2.40%	4.80%	5.30%	18.10%	4.60%	12.00%	4.80%	4.80%	0.00%
<b>2032-2033</b>	<b>50</b>	20.40%	20.40%	2.80%	4.50%	5.10%	17.30%	4.30%	14.00%	5.60%	5.60%	0.00%
<b>2030-2031</b>	<b>50</b>	19.30%	19.30%	3.20%	4.30%	4.80%	16.30%	4.00%	16.00%	6.40%	6.40%	0.00%
<b>2028-2029</b>	<b>50</b>	17.00%	17.00%	4.00%	3.80%	4.20%	14.40%	3.60%	20.00%	8.00%	8.00%	0.00%
<b>2026-2027</b>	<b>50</b>	13.60%	13.60%	5.20%	3.00%	3.40%	11.50%	2.90%	26.00%	10.40%	10.40%	0.00%
<b>2024-2025</b>	<b>46</b>	10.20%	10.20%	5.40%	2.30%	2.50%	8.60%	2.20%	27.00%	10.80%	10.80%	10.00%
<b>2022-2023</b>	<b>35</b>	7.10%	7.10%	4.00%	1.50%	1.80%	6.00%	1.50%	20.00%	8.00%	8.00%	35.00%
<b>Enrollment</b>	<b>28</b>	4.20%	4.20%	3.50%	1.00%	1.10%	3.60%	0.90%	17.50%	7.00%	7.00%	50.00%

## Active Multi-Fund Investment Portfolios

<b>Active Diversified Equity Portfolio</b>	<b>51</b>	28.35%	28.35%		6.30%	7.00%	24.00%	6.00%				
<b>Active Growth Portfolio</b>	<b>50</b>	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	
<b>Active Moderate Growth Portfolio</b>	<b>50</b>	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	
<b>Active Diversified Fixed Income Portfolio</b>	<b>50</b>			10.00%					50.00%	20.00%	20.00%	
<b>Active Conservative Portfolio</b>	<b>28</b>			5.00%					25.00%	10.00%	10.00%	50.00%
<b>Active International Equity Portfolio</b>	<b>28</b>						80.00%	20.00%				
<b>Fund's Performance vs Benchmk Q4 2021 (bp)</b>		<b>(550)</b>	<b>(88)</b>	<b>3</b>	<b>269</b>	<b>(62)</b>	<b>18</b>	<b>218</b>	<b>(11)</b>	<b>(22)</b>	<b>16</b>	<b>25</b>

Glide Path asset allocations are as reflected in the Plan Description.

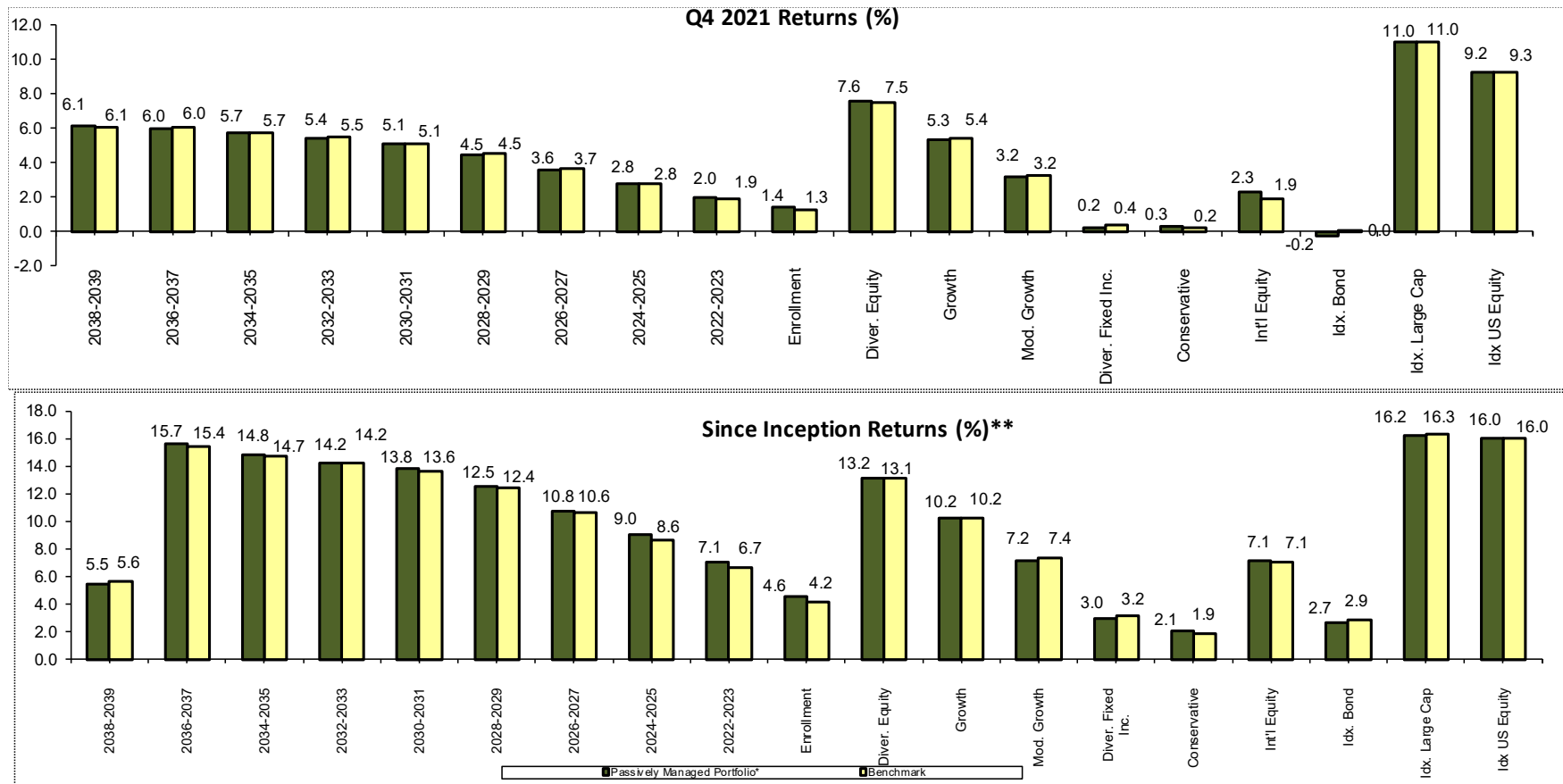
## Active Single Fund Investment Portfolios

Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2021 (bp)
<b>Social Choice Portfolio</b>	<b>23</b>	100.00%	TIAA-CREF Social Choice Equity Fund	<b>19</b>
<b>Principal Plus Interest Portfolio</b>	<b>N/A</b>	100.00%	TIAA-CREF Life Co. Funding Agreement	<b>25</b>

\* Asset Based Fees include most recent weighted average Underlying Fund Fees, Program Management Fees and State Administrative Fees (5 bps).



# Passively Managed Portfolios vs Composite Benchmarks Q4 and Since Inception Returns\* (%)



\* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/8/11. Inception for most Enrollment Year Portfolios was 1/24/20 (inception for 2038-2039 was 6/11/21).

- U.S. equity returns were impacted by COVID-19 developments, but the Russell 3000 Index gained 9.28% in the fourth quarter.
- Treasury yields rose notably at the short end of the curve while intermediate-term yields were relatively stable. The Bloomberg U.S. Aggregate Bond Index of intermediate-term investment grade U.S. bonds returned 0.01%.
- Similar to the Active lineup, the Passive Enrollment Year Portfolios posted positive absolute returns in Q4.
- The TIAA-CREF Equity Index Fund makes up the U.S. equity component of the Passive Portfolios and returned 9.23% in Q4.
- The returns for Multi-Fund and Single Fund Portfolios depended on asset class exposure; portfolios with larger allocations to large cap U.S. equity achieved higher returns.

# Passively Managed Portfolios vs Composite Benchmarks

Investment Portfolios*	Average Annual Total Return						Inception Date
	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	
<b>Passive Enrollment Year Portfolios</b>							
2038/2039 Enrollment Portfolio Passive	6.14%	-	-	-	-	5.50%	06/11/21
Blended Benchmark Returns	6.08%	-	-	-	-	5.63%	
Difference	0.06%	-	-	-	-	-0.13%	
2036/2037 Enrollment Portfolio Passive	6.00%	16.74%	16.74%	-	-	15.65%	01/24/20
Blended Benchmark Returns	6.03%	16.90%	16.90%	-	-	15.37%	
Difference	-0.03%	-0.16%	-0.16%	-	-	0.28%	
2034/2035 Enrollment Portfolio Passive	5.74%	15.97%	15.97%	-	-	14.84%	01/24/20
Blended Benchmark Returns	5.75%	16.15%	16.15%	-	-	14.74%	
Difference	-0.01%	-0.18%	-0.18%	-	-	0.10%	
2032/2033 Enrollment Portfolio Passive	5.38%	15.04%	15.04%	-	-	14.20%	01/24/20
Blended Benchmark Returns	5.46%	15.29%	15.29%	-	-	14.19%	
Difference	-0.08%	-0.25%	-0.25%	-	-	0.01%	
2030/2031 Enrollment Portfolio Passive	5.07%	14.13%	14.13%	-	-	13.79%	01/24/20
Blended Benchmark Returns	5.14%	14.40%	14.40%	-	-	13.60%	
Difference	-0.07%	-0.27%	-0.27%	-	-	0.19%	
2028/2029 Enrollment Portfolio Passive	4.49%	12.53%	12.53%	-	-	12.54%	01/24/20
Blended Benchmark Returns	4.52%	12.77%	12.77%	-	-	12.38%	
Difference	-0.03%	-0.24%	-0.24%	-	-	0.16%	
2026/2027 Enrollment Portfolio Passive	3.57%	10.12%	10.12%	-	-	10.77%	01/24/20
Blended Benchmark Returns	3.66%	10.37%	10.37%	-	-	10.63%	
Difference	-0.09%	-0.25%	-0.25%	-	-	0.14%	
2024/2025 Enrollment Portfolio Passive	2.78%	7.75%	7.75%	-	-	9.02%	01/24/20
Blended Benchmark Returns	2.77%	7.51%	7.51%	-	-	8.61%	
Difference	0.01%	0.24%	0.24%	-	-	0.41%	
2022/2023 Enrollment Portfolio Passive	1.96%	5.64%	5.64%	-	-	7.10%	01/24/20
Blended Benchmark Returns	1.91%	5.42%	5.42%	-	-	6.66%	
Difference	0.05%	0.22%	0.22%	-	-	0.44%	
Enrollment Year Portfolio Passive	1.40%	3.61%	3.61%	-	-	4.55%	01/24/20
Blended Benchmark Returns	1.27%	3.22%	3.22%	-	-	4.19%	
Difference	0.13%	0.39%	0.39%	-	-	0.36%	
<b>Passive Multi-Fund Investment Portfolios</b>							
Passive Diversified Equity Portfolio	7.59%	21.21%	21.21%	21.71%	15.29%	13.17%	11/04/11
Blended Benchmark Returns	7.51%	21.33%	21.33%	21.55%	15.14%	13.12%	
Difference	0.08%	-0.12%	-0.12%	0.16%	0.15%	0.05%	
Passive Growth Portfolio	5.32%	14.55%	14.55%	16.95%	11.99%	10.24%	11/04/11
Blended Benchmark Returns	5.38%	14.79%	14.79%	16.89%	11.94%	10.24%	
Difference	-0.06%	-0.24%	-0.24%	0.06%	0.05%	0.00%	
Passive Moderate Growth Portfolio	3.17%	8.27%	8.27%	11.97%	8.54%	7.16%	11/08/11
Blended Benchmark Returns	3.25%	8.50%	8.50%	12.12%	8.62%	7.38%	
Difference	-0.08%	-0.23%	-0.23%	-0.15%	-0.08%	-0.22%	
Passive Conservative Portfolio	0.33%	0.65%	0.65%	3.47%	2.61%	2.08%	11/04/11
Blended Benchmark Returns	0.20%	0.27%	0.27%	3.29%	2.57%	1.90%	
Difference	0.13%	0.38%	0.38%	0.18%	0.04%	0.18%	
Index International Equity Portfolio	2.29%	8.36%	8.36%	13.05%	9.86%	7.12%	11/04/11
Blended Benchmark Returns	1.89%	8.45%	8.45%	13.12%	9.69%	7.07%	
Difference	0.40%	-0.09%	-0.09%	-0.07%	0.17%	0.05%	
Passive Diversified Fixed Income Portfolio	0.22%	0.22%	0.22%	5.35%	3.76%	2.98%	11/08/11
Blended Benchmark Returns	0.40%	0.48%	0.48%	5.65%	4.03%	3.22%	
Difference	-0.18%	-0.26%	-0.26%	-0.30%	-0.27%	-0.24%	
<b>Passive Single Fund Investment Portfolios</b>							
Index Bond Portfolio	-0.23%	-1.87%	-1.87%	4.56%	3.39%	2.69%	11/04/11
Benchmark Returns	0.01%	-1.54%	-1.54%	4.79%	3.57%	2.91%	
Difference	-0.24%	-0.33%	-0.33%	-0.23%	-0.18%	-0.22%	
Index U.S. Large Cap Equity Portfolio	11.00%	28.61%	28.61%	25.99%	18.38%	16.24%	11/04/11
Benchmark Returns	11.03%	28.71%	28.71%	26.07%	18.47%	16.31%	
Difference	-0.03%	-0.10%	-0.10%	-0.08%	-0.09%	-0.07%	
Index U.S. Equity Portfolio	9.24%	25.63%	25.63%	25.69%	17.89%	15.98%	11/04/11
Benchmark Returns	9.28%	25.66%	25.66%	25.79%	17.97%	16.03%	
Difference	-0.04%	-0.03%	-0.03%	-0.10%	-0.08%	-0.05%	

\* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

\*\*The crediting rate of 1.00% for the TC Life Funding Agreement in the Passive Age-Based Portfolio is guaranteed through 12/31/22.

# Asset Allocation, Fees, and Performance

Passive Enrollment Year Portfolios	Annual Asset Based Fees (bp)*	TIAA-CREF Equity Index Fund	TIAA-CREF International Equity Index Fund	TIAA-CREF Emerging Markets Equity Index Fund	TIAA-CREF Real Estate Securities Fund	TIAA-CREF Bond Index Fund	TIAA-CREF Inflation-Linked Bond Fund	TIAA-CREF High Yield Fund	T-C Life Funding Agreement
<b>Underlying Fund Expenses (bp)</b>		<b>5</b>	<b>5</b>	<b>20</b>	<b>49</b>	<b>8</b>	<b>25</b>	<b>36</b>	<b>N/A</b>
<b>2038-2039</b>	<b>11</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>2036-2037</b>	<b>11</b>	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
<b>2034-2035</b>	<b>11</b>	47.90%	18.20%	4.60%	5.30%	16.80%	4.80%	2.40%	0.00%
<b>2032-2033</b>	<b>11</b>	45.40%	17.30%	4.30%	5.00%	19.60%	5.60%	2.80%	0.00%
<b>2030-2031</b>	<b>12</b>	42.80%	16.30%	4.10%	4.80%	22.40%	6.40%	3.20%	0.00%
<b>2028-2029</b>	<b>12</b>	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
<b>2026-2027</b>	<b>13</b>	30.20%	11.50%	2.90%	3.40%	36.40%	10.40%	5.20%	0.00%
<b>2024-2025</b>	<b>12</b>	22.70%	8.60%	2.20%	2.50%	37.80%	10.80%	5.40%	10.00%
<b>2022-2023</b>	<b>9</b>	15.70%	6.00%	1.50%	1.80%	28.00%	8.00%	4.00%	35.00%
<b>Enrollment</b>	<b>7</b>	9.40%	3.60%	0.90%	1.10%	24.50%	7.00%	3.50%	50.00%

## Passive Multi-Fund Investment Portfolios

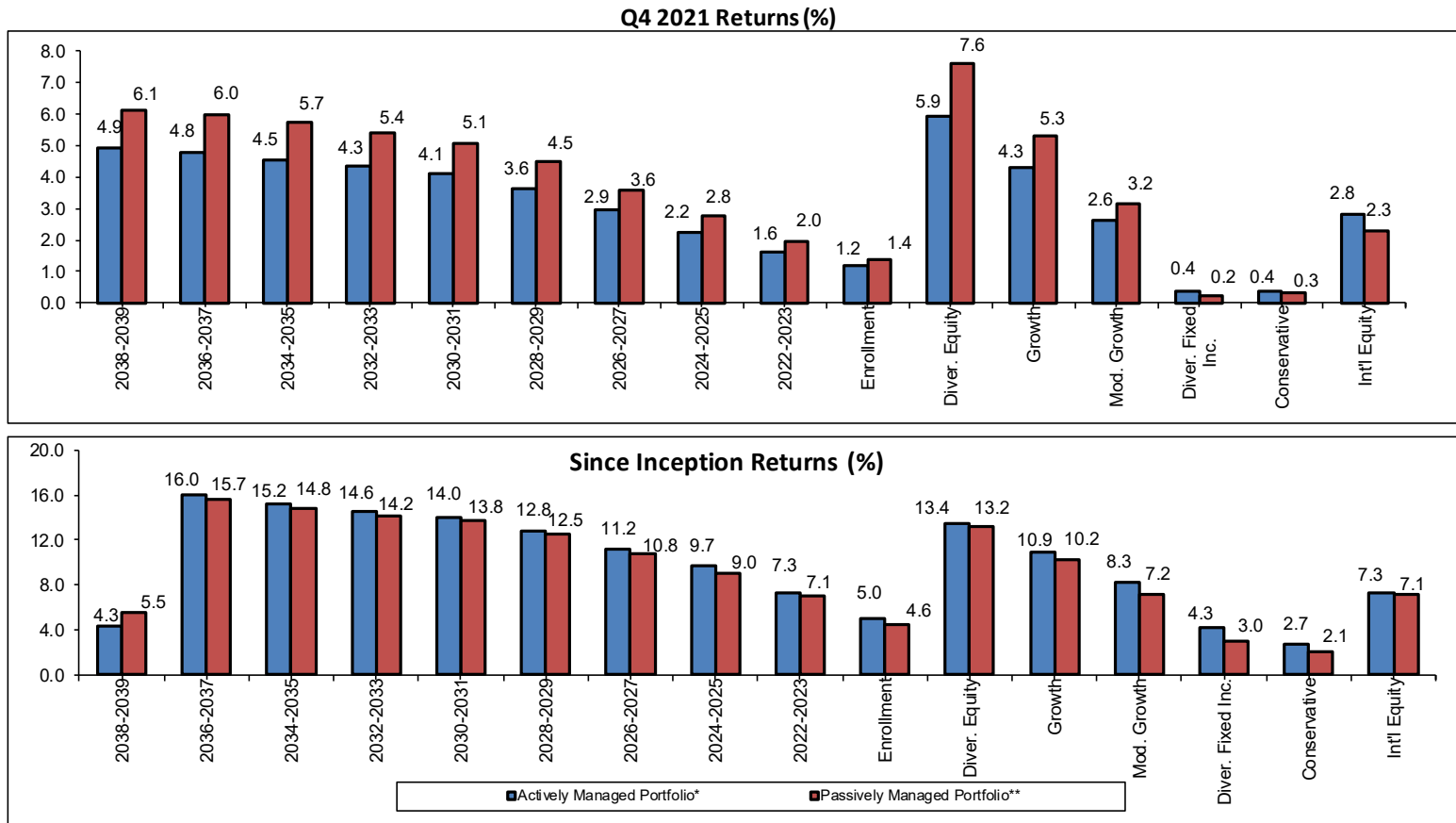
<b>Passive Diversified Equity Portfolio</b>	<b>10</b>	63.00%	24.00%	6.00%	7.00%				
<b>Passive Growth Portfolio</b>	<b>12</b>	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
<b>Passive Moderate Growth Portfolio</b>	<b>13</b>	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	
<b>Passive Diversified Fixed Income Portfolio</b>	<b>15</b>					70.00%	20.00%	10.00%	
<b>Passive Conservative Portfolio</b>	<b>8</b>					35.00%	10.00%	5.00%	50.00%
<b>Index International Equity Portfolio</b>	<b>9</b>		80.00%	20.00%					
<b>Fund's Performance vs Benchmk Q4 2021 (bp)</b>		<b>(5)</b>	<b>47</b>	<b>3</b>	<b>(62)</b>	<b>(18)</b>	<b>(15)</b>	<b>11</b>	<b>25</b>

Glide Path asset allocations are as reflected in the Plan Description.

Investment Portfolios	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q4 2021 (bp)
<b>Index Bond Portfolio</b>	<b>12</b>	100.00%	TIAA-CREF Bond Index Fund	<b>(18)</b>
<b>Index U.S. Large Cap Equity Portfolio</b>	<b>6</b>	100.00%	TIAA-CREF S&P 500 Index Fund	<b>(3)</b>
<b>Index U.S. Equity Portfolio</b>	<b>6</b>	100.00%	TIAA-CREF Equity Index Fund	<b>(5)</b>

\* Asset Based Fees include most recent weighted average Underlying Fund Fees and Program Management Fees.

# Actively Managed Portfolios vs. Passively Managed Portfolios Q4 and Since Inception Returns (%)



\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps).

\*\* Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees, and State Administrative Fees (5 bps) before 11/12/13.

\*\*\* Inception for the Multi-Fund and Single-Fund Portfolios was 11/4/11 - 11/10/11. Inception for most Enrollment Year Portfolios was 1/24/20 (2038-2039 was inception 6/11/21).

- In Q4, most Passive Portfolios outperformed Active Portfolios.
- The primary reason for underperformance in the Active Portfolios was the T. Rowe Price Large Cap Growth Fund, which underperformed the Russell 1000 Growth Index by 550 basis points. As a result, the Passive funds ended the quarter with higher returns than the Active ones, as a whole.
- Since inception, Active Portfolios still modestly outperform their Passive counterparts for portfolios with longer history.

# Underlying Funds vs. Benchmarks

	Average Annual Total Return							Standard Deviation	Fund Incept. Date
	3 Month	YTD	1 Year	3 Year	5 Year	Life	3-Year		
<b>TIAA-CREF FUNDS</b>									
T-C Bond Index Fund	-0.17%	-1.81%	-1.81%	4.58%	3.41%	3.39%	3.48%	09/14/2009	
Bloomberg Barclays U.S. Aggregate Bond Index	0.01%	-1.54%	-1.54%	4.79%	3.57%	3.58%	3.40%		
Difference	<b>-0.18%</b>	<b>-0.27%</b>	<b>-0.27%</b>	<b>-0.21%</b>	<b>-0.16%</b>	<b>-0.19%</b>			
T-C Emerging Markets Equity Index Fund*	-1.28%	-3.06%	-3.06%	10.59%	9.69%	4.21%	18.66%	08/31/2010	
MSCI Emerging Markets® Index	-1.31%	-2.54%	-2.54%	10.94%	9.88%	4.57%	18.60%		
Difference	<b>0.03%</b>	<b>-0.52%</b>	<b>-0.52%</b>	<b>-0.35%</b>	<b>-0.19%</b>	<b>-0.36%</b>			
T-C Equity Index Fund	9.23%	25.63%	25.63%	25.70%	17.92%	7.94%	18.15%	07/01/1999	
Russell 3000 Index	9.28%	25.66%	25.66%	25.78%	17.97%	8.01%	18.19%		
Difference	<b>-0.05%</b>	<b>-0.03%</b>	<b>-0.03%</b>	<b>-0.08%</b>	<b>-0.05%</b>	<b>-0.07%</b>			
T-C High Yield Bond Fund	0.84%	4.79%	4.79%	7.57%	5.07%	6.59%	9.59%	03/31/2006	
ICE BofAML BB/B Cash Pay Index	0.73%	4.58%	4.58%	8.56%	6.04%	6.77%	8.67%		
Difference	<b>0.11%</b>	<b>0.21%</b>	<b>0.21%</b>	<b>-0.99%</b>	<b>-0.97%</b>	<b>-0.18%</b>			
T-C Inflation-Linked Bond Fund	1.39%	5.27%	5.27%	6.64%	4.19%	4.20%	2.76%	10/01/2002	
Bloomberg Barclays 1-10 Year U.S. TIPS Index	1.54%	5.69%	5.69%	6.97%	4.47%	4.07%	2.90%		
Difference	<b>-0.15%</b>	<b>-0.42%</b>	<b>-0.42%</b>	<b>-0.33%</b>	<b>-0.28%</b>	<b>0.13%</b>			
T-C International Equity Index Fund*	3.16%	11.30%	11.30%	13.59%	9.77%	7.95%	17.17%	10/01/2002	
MSCI EAFE Index	2.69%	11.26%	11.26%	13.54%	9.55%	7.90%	17.16%		
Difference	<b>0.47%</b>	<b>0.04%</b>	<b>0.04%</b>	<b>0.05%</b>	<b>0.22%</b>	<b>0.05%</b>			
T-C Real Estate Securities Fund	15.55%	39.41%	39.41%	22.79%	14.82%	11.69%	16.67%	10/01/2002	
FTSE NAREIT Equity Index	16.17%	41.30%	41.30%	19.92%	12.46%	11.48%	18.58%		
Difference	<b>-0.62%</b>	<b>-1.89%</b>	<b>-1.89%</b>	<b>2.87%</b>	<b>2.36%</b>	<b>0.21%</b>			
T-C S&P 500 Index Fund	11.00%	28.64%	28.64%	26.00%	18.41%	11.51%	17.40%	10/01/2002	
S&P 500 Index	11.03%	28.71%	28.71%	26.06%	18.48%	11.59%	17.41%		
Difference	<b>-0.03%</b>	<b>-0.07%</b>	<b>-0.07%</b>	<b>-0.06%</b>	<b>-0.07%</b>	<b>-0.08%</b>			
T-C Quant Small Cap Equity Fund	4.83%	25.06%	25.06%	20.44%	12.09%	11.49%	24.80%	10/01/2002	
Russell 2000 Index	2.14%	14.82%	14.82%	20.02%	12.02%	11.31%	23.68%		
Difference	<b>2.69%</b>	<b>10.24%</b>	<b>10.24%</b>	<b>0.42%</b>	<b>0.07%</b>	<b>0.18%</b>			
T-C Social Choice Equity Fund	9.47%	26.46%	26.46%	26.01%	17.99%	7.79%	17.87%	07/01/1999	
Russell 3000 Index	9.28%	25.66%	25.66%	25.78%	17.97%	8.01%	18.19%		
Difference	<b>0.19%</b>	<b>0.80%</b>	<b>0.80%</b>	<b>0.23%</b>	<b>0.02%</b>	<b>-0.22%</b>			
<b>DFA FUNDS</b>									
DFA Emerging Markets Core Equity Portfolio*	0.87%	5.83%	5.83%	11.82%	10.11%	7.84%	19.84%	04/05/2005	
MSCI Emerging Markets® Index	-1.31%	-2.54%	-2.54%	10.94%	9.88%	7.44%	18.60%		
Difference	<b>2.18%</b>	<b>8.37%</b>	<b>8.37%</b>	<b>0.88%</b>	<b>0.23%</b>	<b>0.40%</b>			
DFA Large Cap International Portfolio*	3.32%	12.81%	12.81%	14.17%	9.89%	6.04%	17.93%	07/17/1991	
MSCI World Ex US Index	3.14%	12.62%	12.62%	14.06%	9.63%	6.09%	17.42%		
Difference	<b>0.18%</b>	<b>0.19%</b>	<b>0.19%</b>	<b>0.11%</b>	<b>0.26%</b>	<b>-0.05%</b>			
<b>METWEST FUNDS</b>									
MetWest Total Return Bond Fund	-0.10%	-1.11%	-1.11%	5.65%	4.12%	4.04%	3.51%	07/01/1999	
Bloomberg Barclays U.S. Aggregate Bond Index	0.01%	-1.54%	-1.54%	4.79%	3.57%	3.10%	3.40%		
Difference	<b>-0.11%</b>	<b>0.43%</b>	<b>0.43%</b>	<b>0.86%</b>	<b>0.55%</b>	<b>0.94%</b>			
<b>PIMCO FUNDS</b>									
PIMCO Income Fund	0.17%	2.61%	2.61%	5.46%	5.08%	7.68%	5.79%	03/30/2007	
Barclays Capital U.S. Aggregate Bond Index	0.01%	-1.54%	-1.54%	4.79%	3.57%	4.05%	3.40%		
Difference	<b>0.16%</b>	<b>4.15%</b>	<b>4.15%</b>	<b>0.67%</b>	<b>1.51%</b>	<b>3.63%</b>			
PIMCO Real Return Fund	2.14%	5.67%	5.67%	8.73%	5.54%	5.91%	4.05%	01/29/1997	
Bloomberg Barclays U.S. TIPS Index	2.36%	5.96%	5.96%	8.44%	5.34%	-	3.90%		
Difference	<b>-0.22%</b>	<b>-0.29%</b>	<b>-0.29%</b>	<b>0.29%</b>	<b>0.20%</b>	<b>-</b>			
<b>T. ROWE PRICE FUNDS</b>									
T. Rowe Price Inst Floating Rate Fund	0.80%	4.65%	4.65%	5.25%	3.96%	4.91%	7.33%	01/31/2008	
S&P/LSTA Performing Loan Index	0.77%	5.42%	5.42%	5.85%	4.47%	5.19%	8.96%		
Difference	<b>0.03%</b>	<b>-0.77%</b>	<b>-0.77%</b>	<b>-0.60%</b>	<b>-0.51%</b>	<b>-0.28%</b>			
T. Rowe Price Inst Large Cap Growth Fund	6.14%	23.18%	23.18%	30.23%	26.01%	12.78%	18.16%	10/31/2001	
Russell 1000 Growth Index	11.64%	27.60%	27.60%	34.07%	25.32%	11.26%	18.43%		
Difference	<b>-5.50%</b>	<b>-4.42%</b>	<b>-4.42%</b>	<b>-3.84%</b>	<b>0.69%</b>	<b>1.52%</b>			
T. Rowe Price Inst Large Cap Value Fund	6.89%	25.81%	25.81%	17.97%	11.71%	8.90%	19.93%	3/31/2000	
Russell 1000 Value Index	7.77%	25.16%	25.16%	17.64%	11.17%	7.67%	19.33%		
Difference	<b>-0.88%</b>	<b>0.65%</b>	<b>0.65%</b>	<b>0.33%</b>	<b>0.54%</b>	<b>1.23%</b>			

\* For funds holding securities traded on foreign exchange that close before the U.S. market, fair value pricing creates tracking error relative to a benchmark index that uses foreign closing prices.



TIAA-CREF Tuition Financing, Inc.

BUILT TO PERFORM.

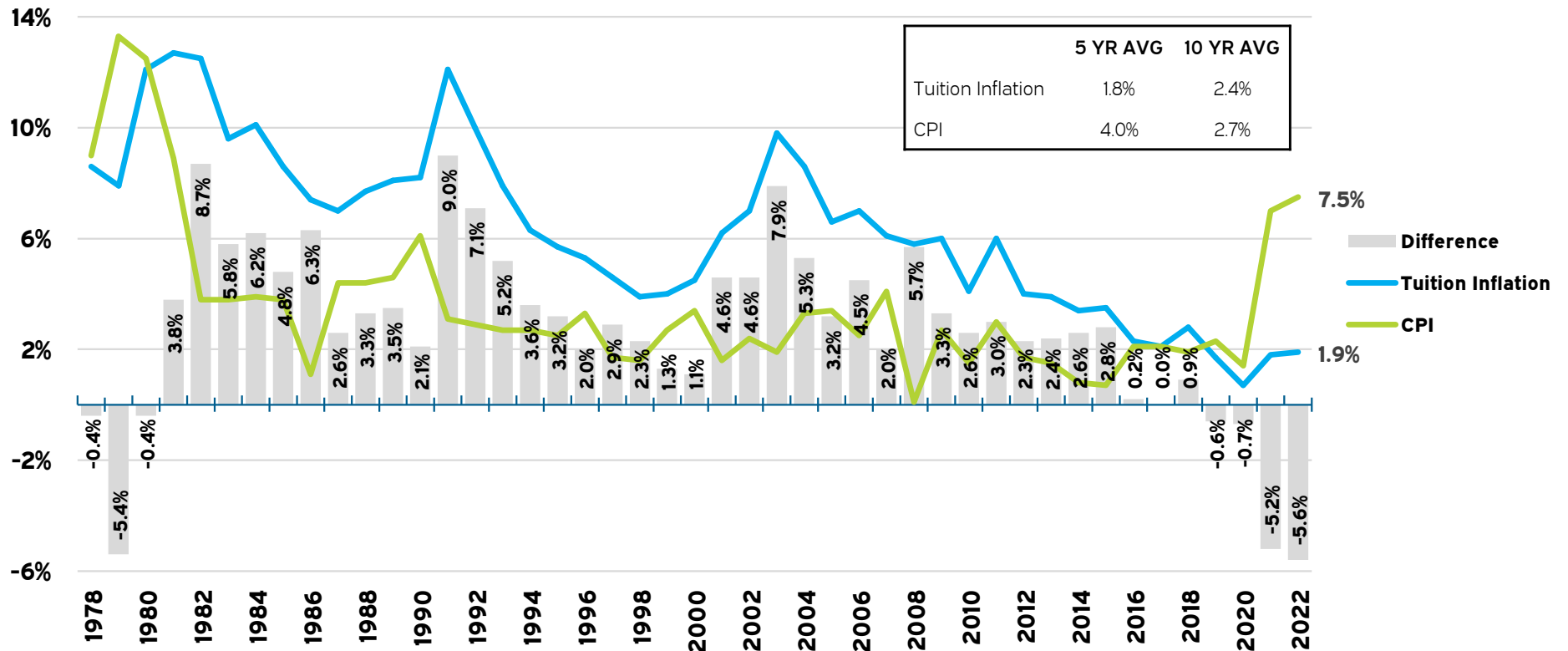
CREATED TO SERVE.

# ScholarShare 529 College Savings Plan

March 16, 2022

Inflation:  
Current Environment

**Year-Over-Year (1977 - January 2022)**  
**College Tuition Inflation v. the Consumer Price Index,**  
**U.S. Bureau of Labor Statistics**





## US Inflation Indicators – Basic Definitions

- Inflation is a rise in the general level of prices of goods and services over a period of time.
- There are two common measures of inflation in the US today, CPI and PCE.
  - Both indexes calculate the price level by pricing a basket of goods.
  - What’s included in the basket of goods is different for each index.
  - Indexes follow different methodologies on constructing the basket of goods.
    - PCE adjusts the basket for consumer behavior resulting from price changes.
    - CPI’s basket of goods is static.
  - Measured monthly, the market tends to focus on year-over-year price changes.

### Consumer Price Index (CPI)

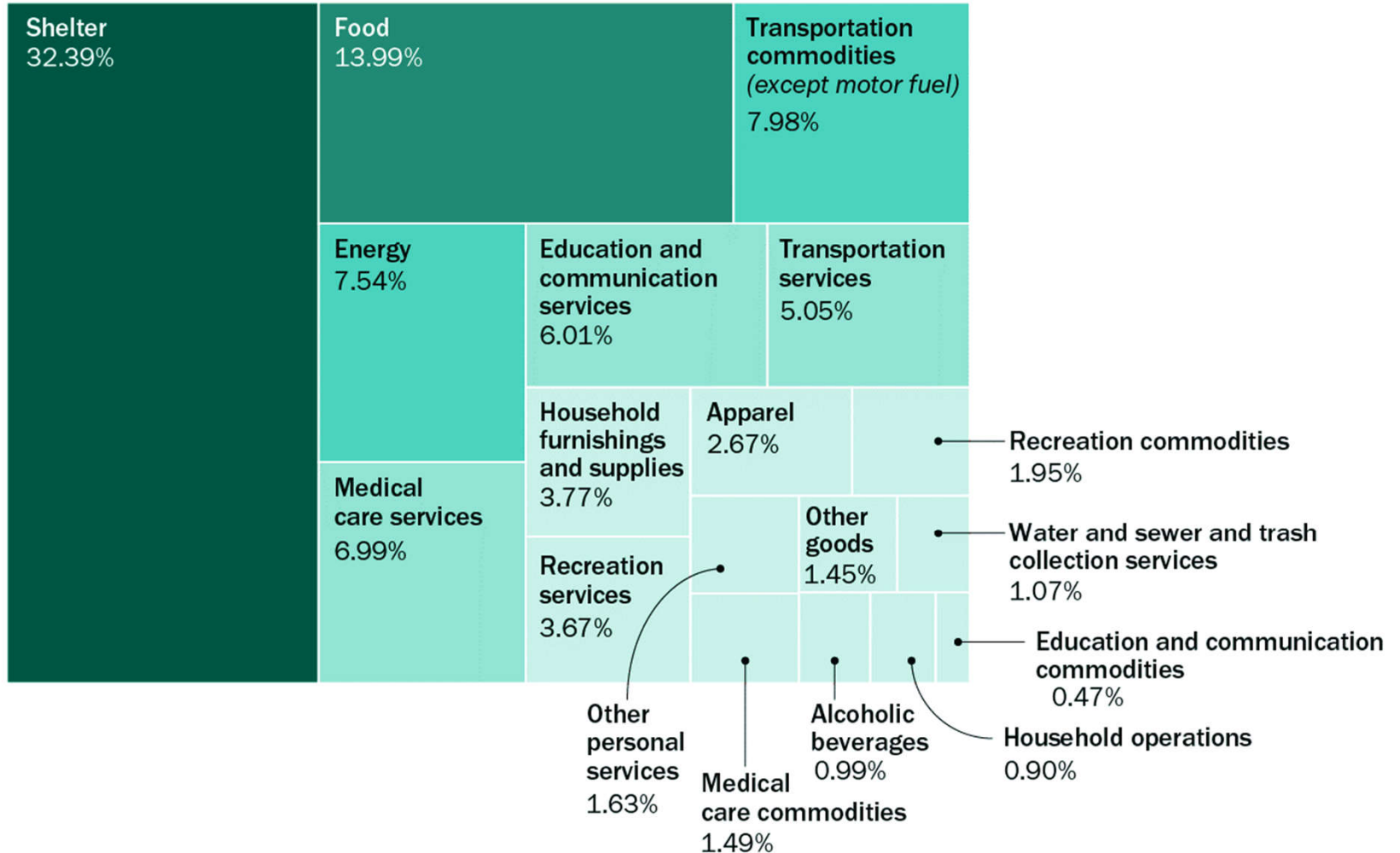
- Bureau of Labor Statistics
- Measures urban consumer prices
- Based on a survey of what households are buying
- Includes out-of-pocket expenses for goods and services
- Excludes expenses not paid directly (e.g., medical care)
- Used to adjust social security payments and the referenced rate for some financial contracts (e.g., TIPS)

### Personal Consumption Expenditures (PCE)

- Bureau of Economic Analysis
- Estimate of all household costs
- Based on surveys of what businesses are selling
- Includes out-of-pocket expenses for goods and services
- Includes expenses not paid directly (e.g., medical care)
- Used by The Federal Reserve to state its goal for inflation
- Less volatile than the CPI

**What goes into the Consumer Price Index?**

*Relative importance of different expenditure categories, November 2021*



Source: U.S. Bureau of Labor Statistics; PEW Research Center

## US Inflation Indicators – Basic Definitions

### Headline

- There are eight major components:
  - Food and Beverages
  - Housing
  - Transportation
  - Medical Care
  - Recreation
  - Education and Communications
  - Other Goods and Services

### Core

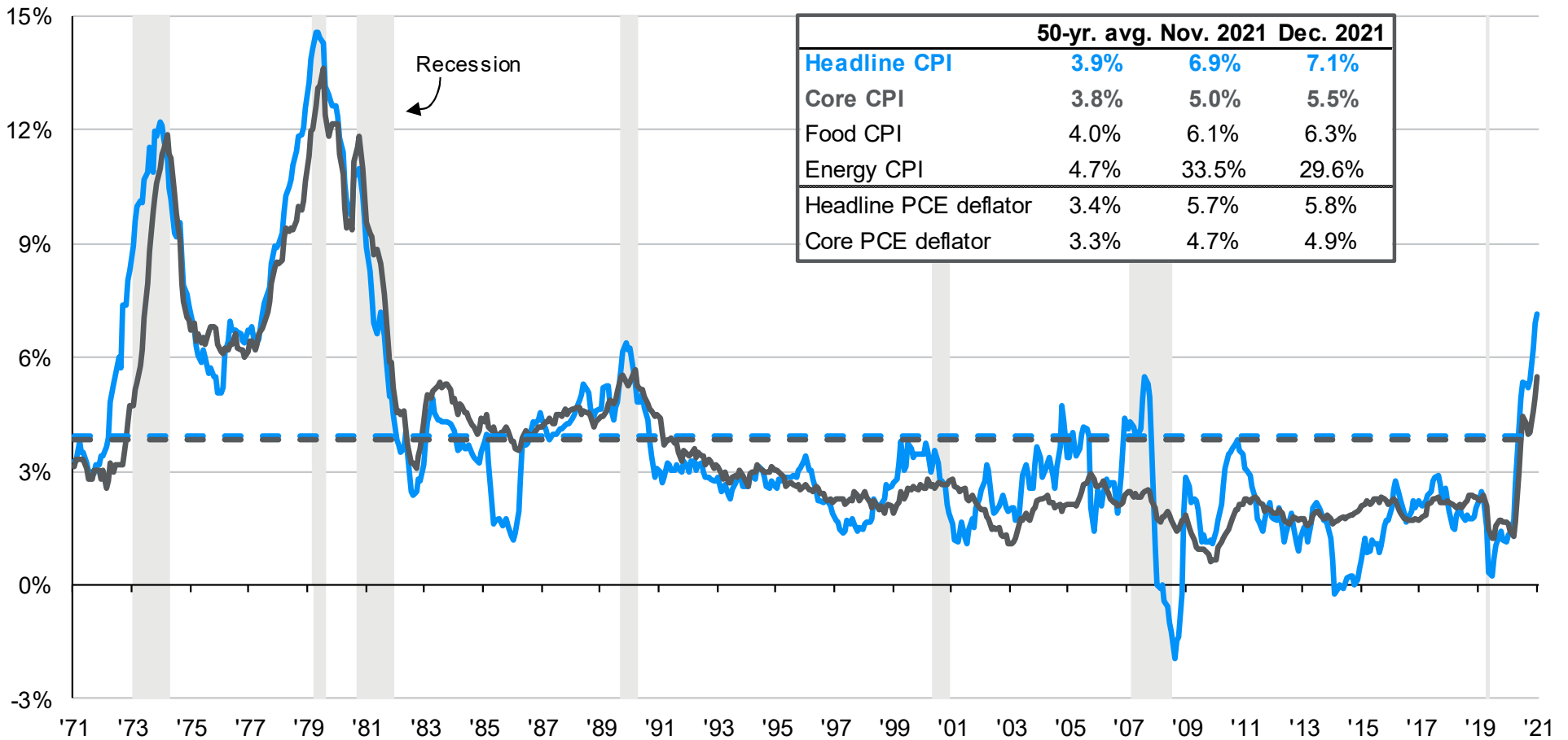
- Subset of Headline, strips out:
  - Food
  - Energy
- These components tend to be highly volatile
- Represents approximately 20% of household consumption in a developed economy

### History of US Inflation

- US has experienced periods of high inflation.
  - Most of these periods occurred during materially different monetary regimes than current day.
- Since the early 1990s, US inflation has become less volatile, and some explanations include:
  - Advent of inflation targeting monetary policy in the US and other developed markets.
  - Financial market technology and efficiencies.
  - Business technology improvements on supply management.
  - Demographic and labor trends lowering input costs.

**CPI and core CPI**

% change vs. prior year, seasonally adjusted



Source: BLS, FactSet, J.P. Morgan Asset Management

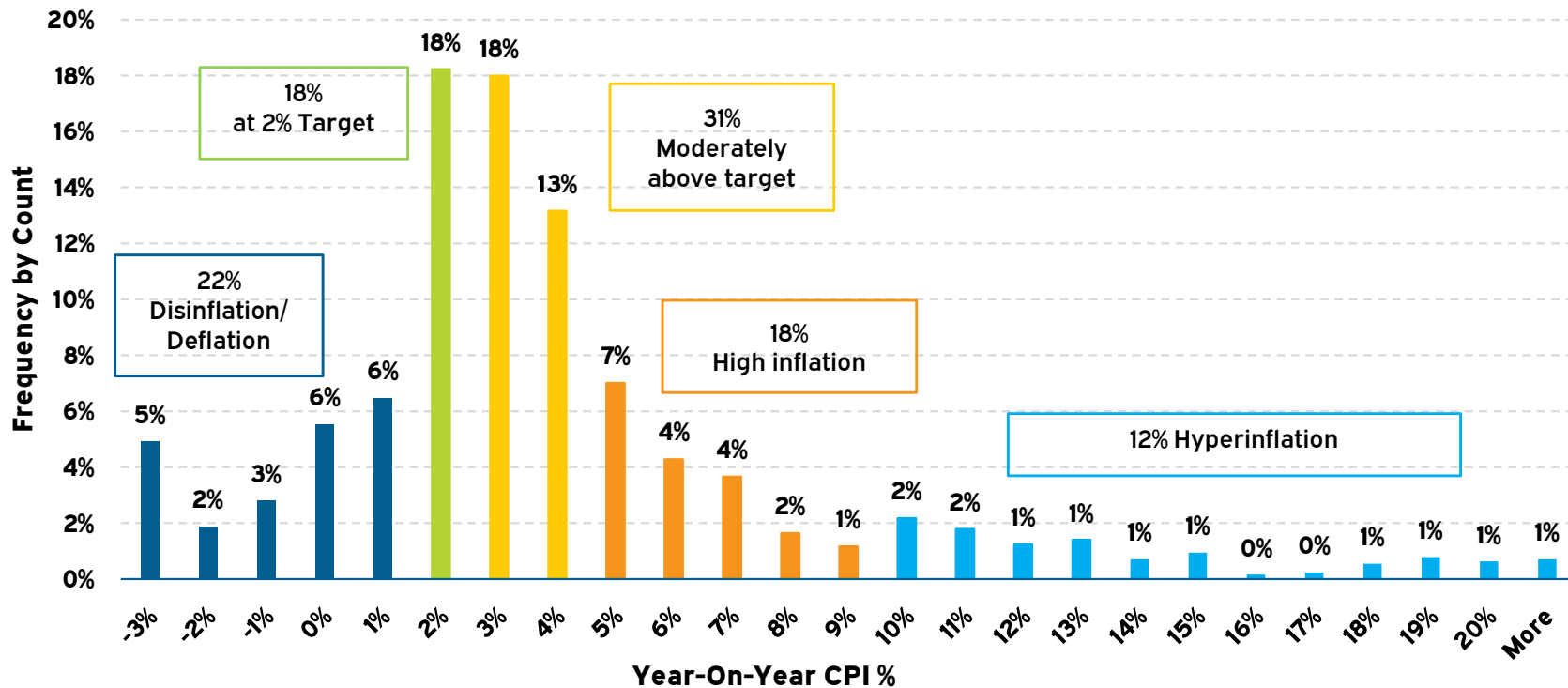
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.

Guide to the Markets – U.S. Data are as of December 31, 2021.

**How Frequent Are Periods of High Inflation?**

- Since 1914, the distribution of annual inflation has been centered near 2%.
  - Disinflation/Deflation has been more frequent than hyperinflation.
  - Approximately 18% of the time, inflation has been at 2%.

1914 - 2020 Distribution of Annual US Inflation Rates



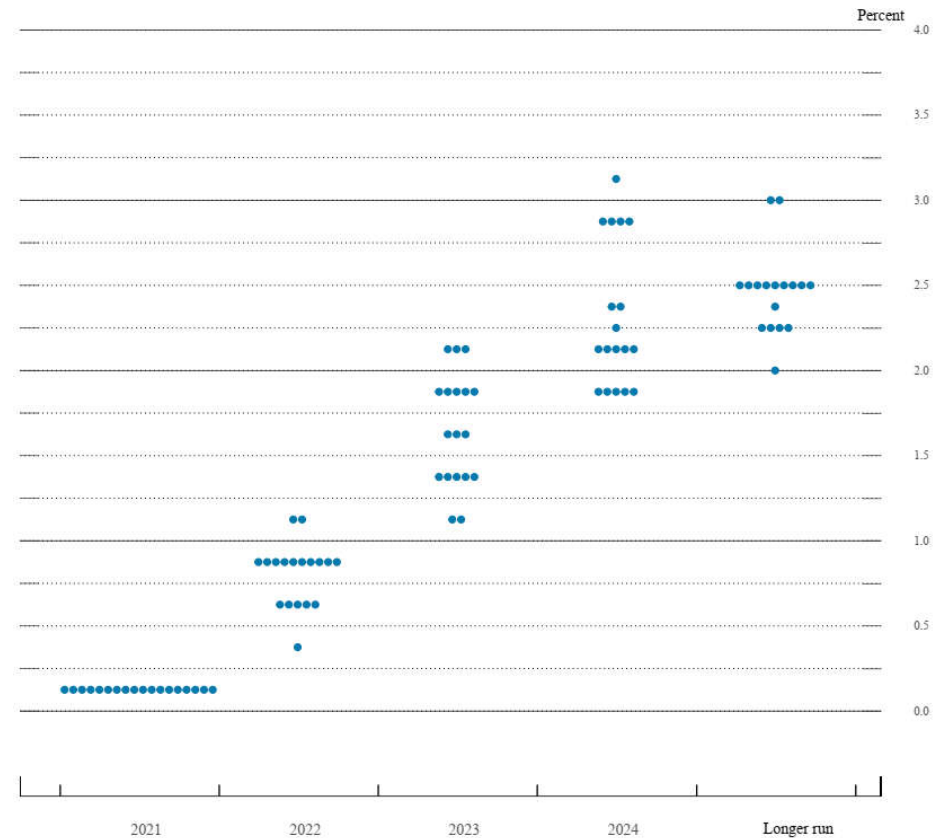
Source: FRED.

- Jerome Powell reappointed as Federal Reserve chair.
- Federal Reserve doubles speed of tapering bond purchases to \$30 M monthly from \$15 M.
  - Wraps-up program by March 2022 (ahead of the original July 2022 schedule).
- Rate hikes in 2022 ... How many?

#### FOMC Statement of Economic Projections - Median

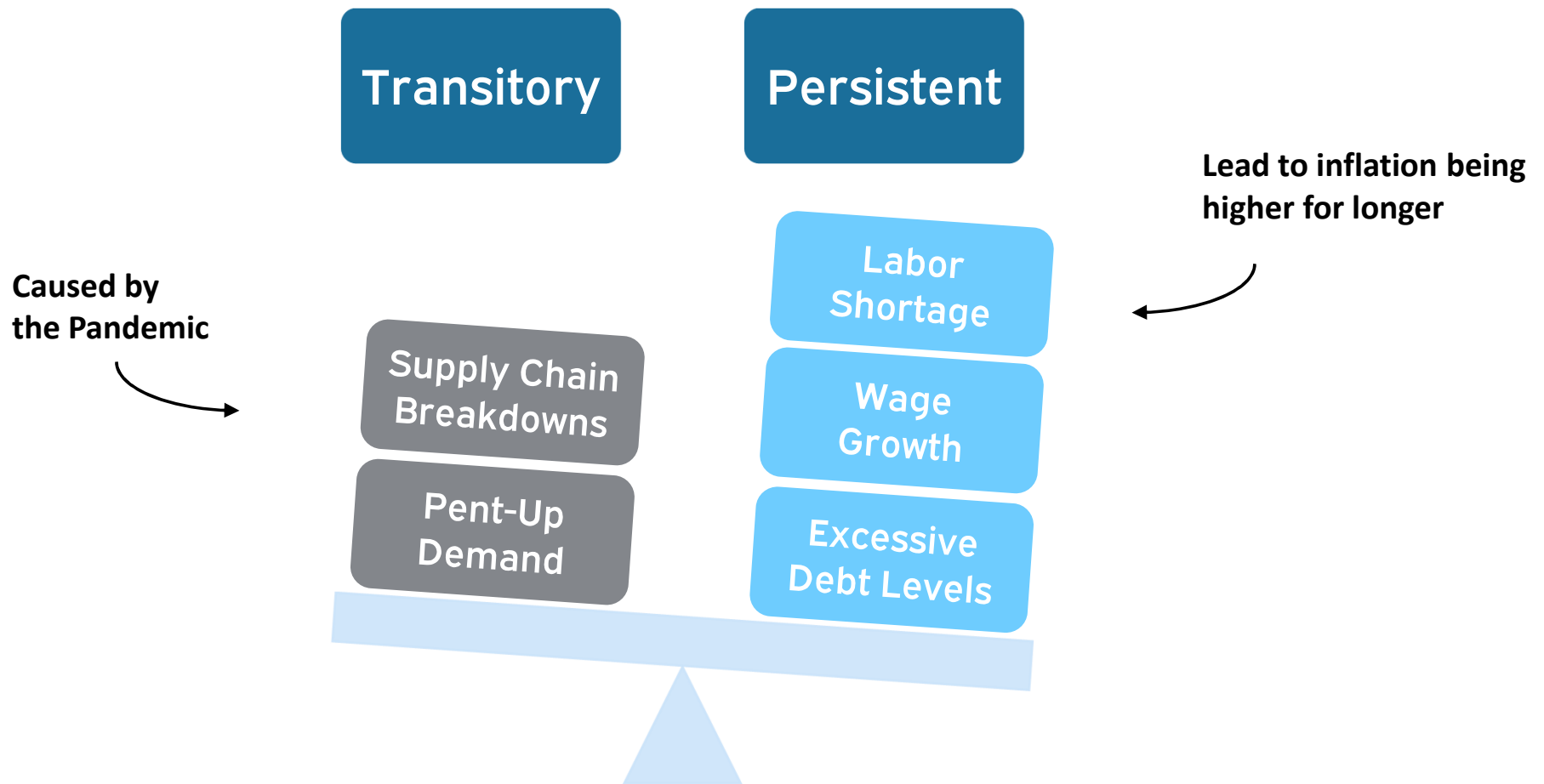
	2021	2022	2023	Longer Run
<b>Change in Real GDP</b>	<b>5.5</b>	<b>4.0</b>	<b>2.2</b>	<b>1.8</b>
September Projection	5.9	3.8	2.5	1.8
June Projection	7.0	3.3	2.4	1.8
March Projection	6.5	3.3	2.2	1.8
<b>Unemployment Rate</b>	<b>4.3</b>	<b>3.5</b>	<b>3.5</b>	<b>4.0</b>
September Projection	4.8	3.8	3.5	4.0
June Projection	4.5	3.8	3.5	4.0
March Projection	4.5	3.9	3.5	4.0
<b>PCE Inflation</b>	<b>5.3</b>	<b>2.6</b>	<b>2.3</b>	<b>2.0</b>
September Projection	4.2	2.2	2.2	2.0
June Projection	3.4	2.1	2.2	2.0
March Projection	2.4	2.0	2.2	2.0
<b>Core PCE Inflation</b>	<b>4.4</b>	<b>2.7</b>	<b>2.3</b>	<b>--</b>
September Projection	3.7	2.3	2.2	--
June Projection	3.0	2.1	2.1	--
March Projection	2.2	2.0	2.1	--
<b>Fed Funds Rate</b>	<b>0.1</b>	<b>0.9</b>	<b>1.6</b>	<b>2.5</b>
September Projection	0.1	0.3	1.0	2.5
June Projection	0.1	0.1	0.6	2.5
March Projection	0.1	0.1	0.1	2.5

#### FOMC Dot Plot



#### Inflation Expectations

- What does “Transitory” really mean?

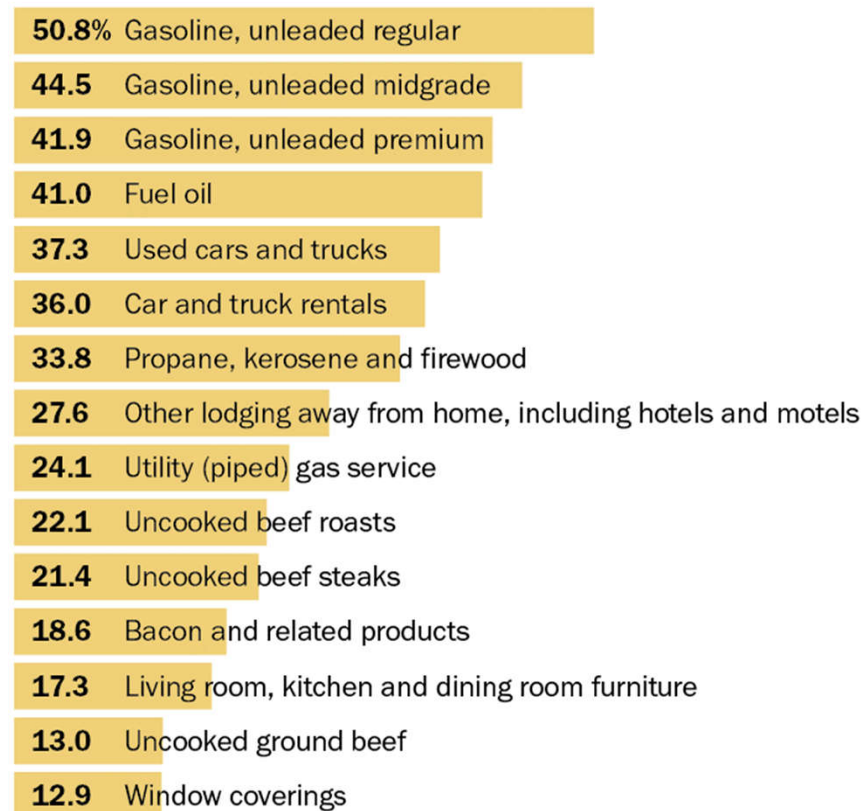




## Bottlenecks & Pent-Up Demand?

### Largest % Increases in CPI Components

Dec. 2020 – Dec. 2021

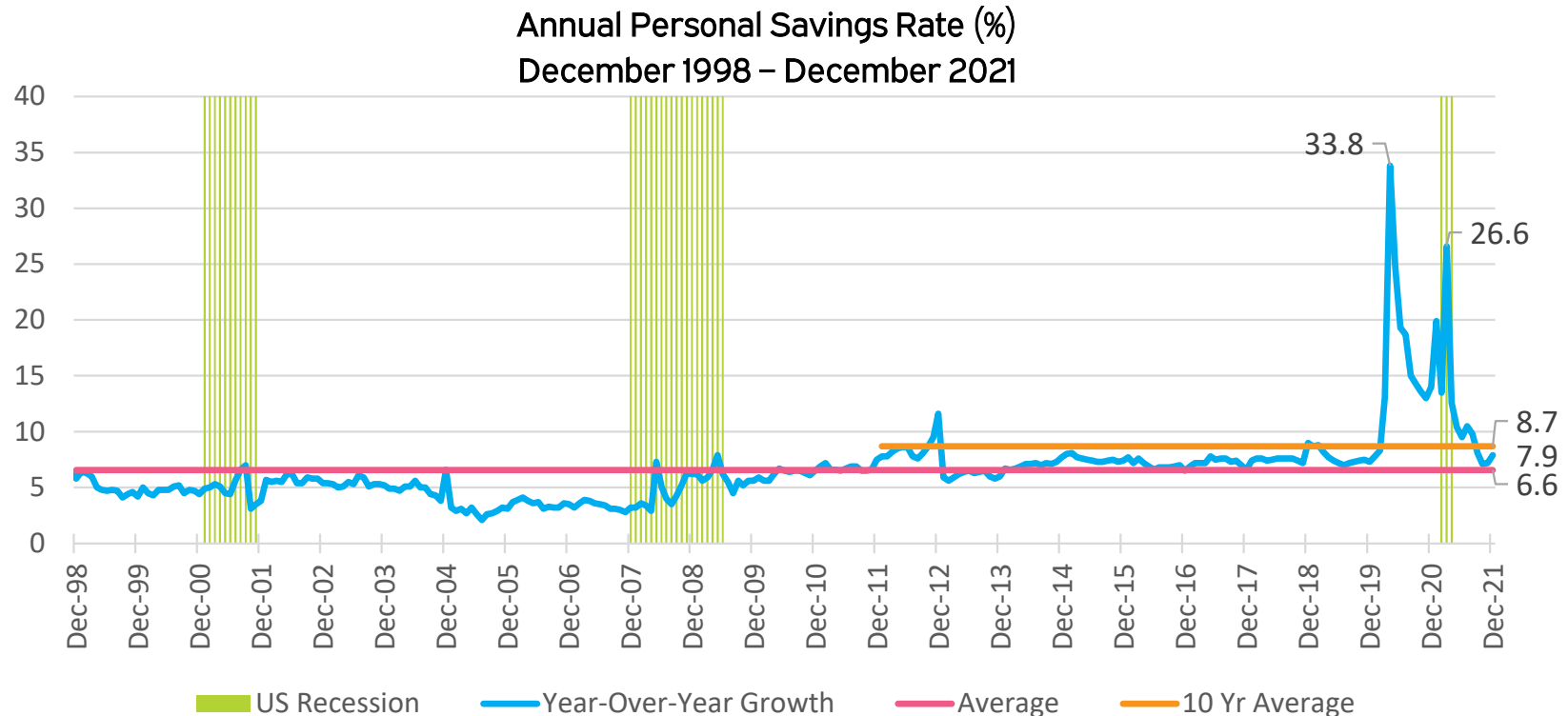


- Inflation fell significantly in the spring of 2020 in response to global lockdowns.
- In 2021, vaccination efforts supported a reopening of the US economy and some components of CPI rose dramatically.
- Some of these items included materials related to housing construction, used cars, and transportation services related to the delivery of goods.
- Some prices have returned to pre-lockdown levels (e.g., lumber) while others have not.

Source: Bureau of Labor Statistics; PEW Research Center

### Personal Savings Rate

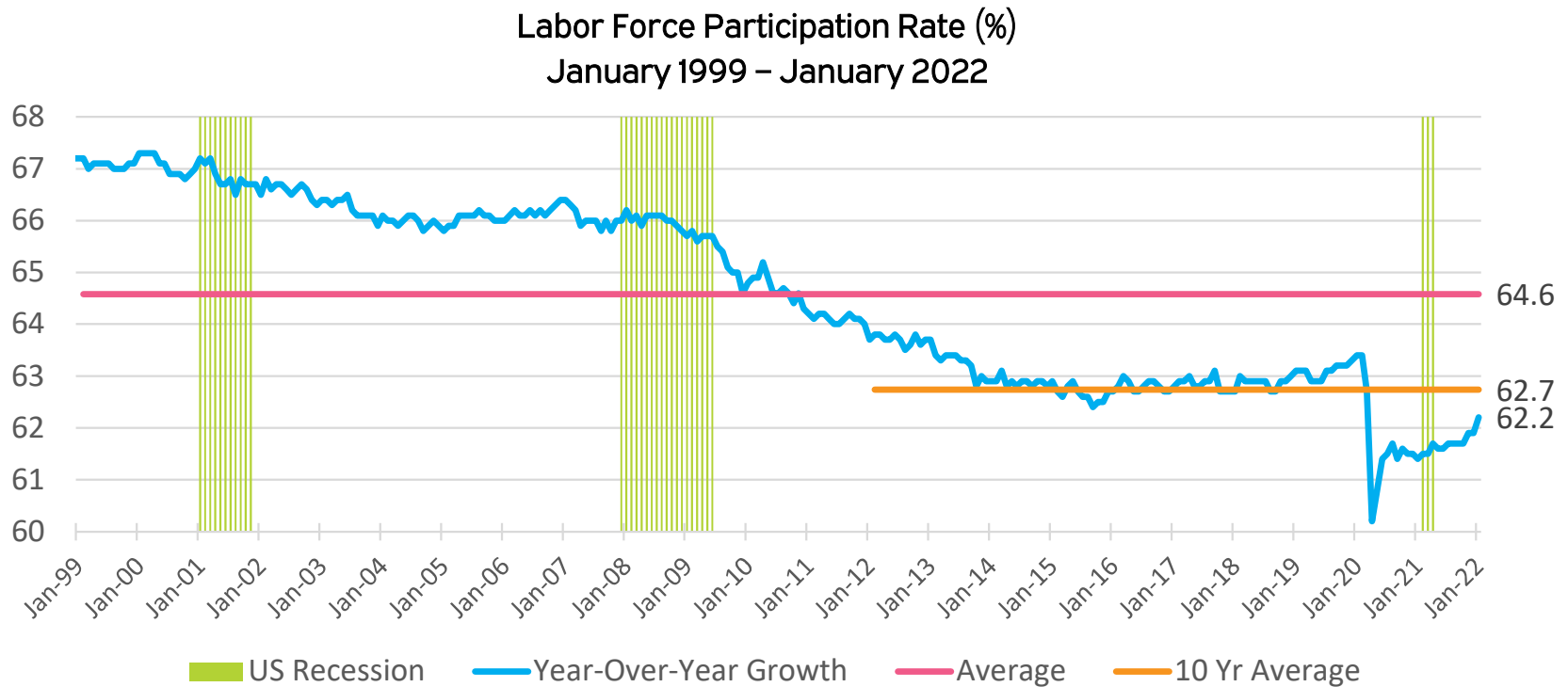
- Personal savings rate skyrocketed as the world locked down due to the pandemic.
  - Hitting 33.8%, a historic high, in April 2020.
- The personal savings rate has retreated to pre-pandemic levels, as enhanced employment benefits and child tax credits end.



Source: Bureau of Economic Analysis. Monthly, Seasonally Adjusted.

**Labor Shortage**

- Labor force participation remains below the longer-term and 10-year averages.
  - Demand for employees continues to outpace supply.
    - Weighing down potential economic growth.
    - Wages are bid up and those cost increases are likely passed onto consumers.
    - Feeding inflation pressures.

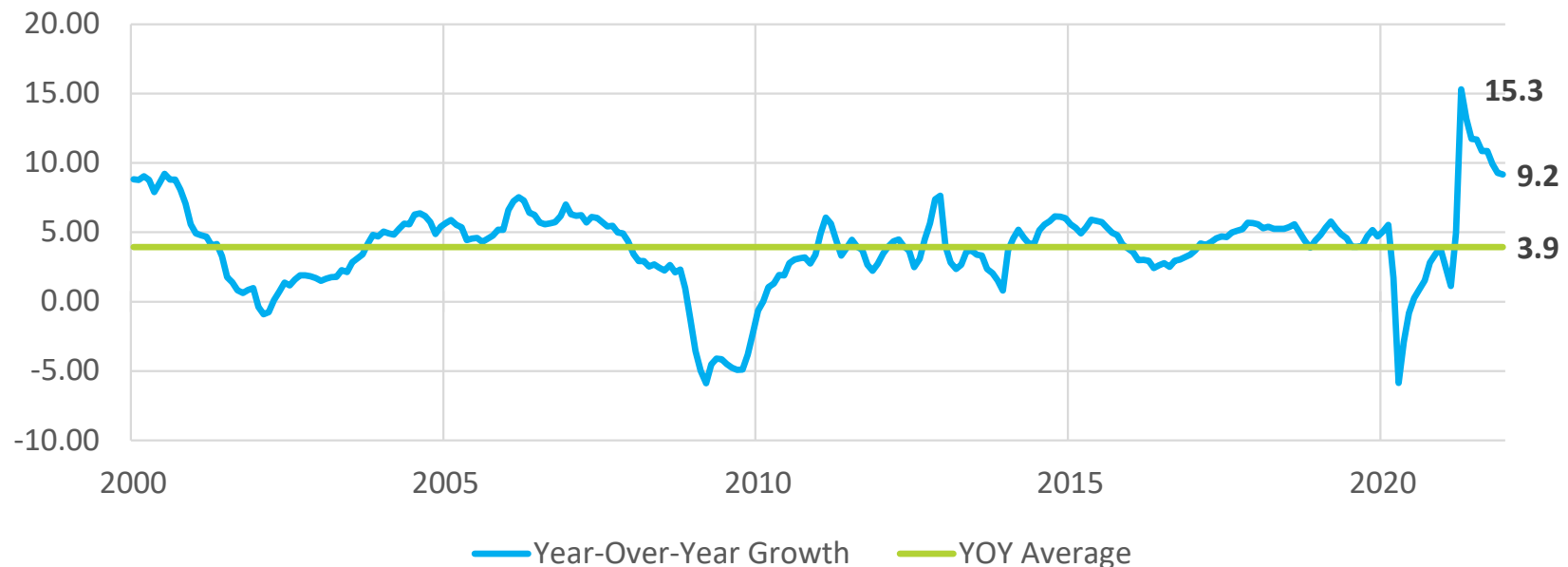


Source: FRED. Monthly, Seasonally Adjusted.

### Wage Growth – How sticky is it?

- A sharp and sizeable rise in wages is contributing to worries over inflation.
- Wage growth reaches record high (15.3%) in April of 2021.
  - Change primarily driven by composition and base effects.
- What could cause wage growth to remain elevated?
  - “Help Wanted” ... millions of workers staying on the sidelines.

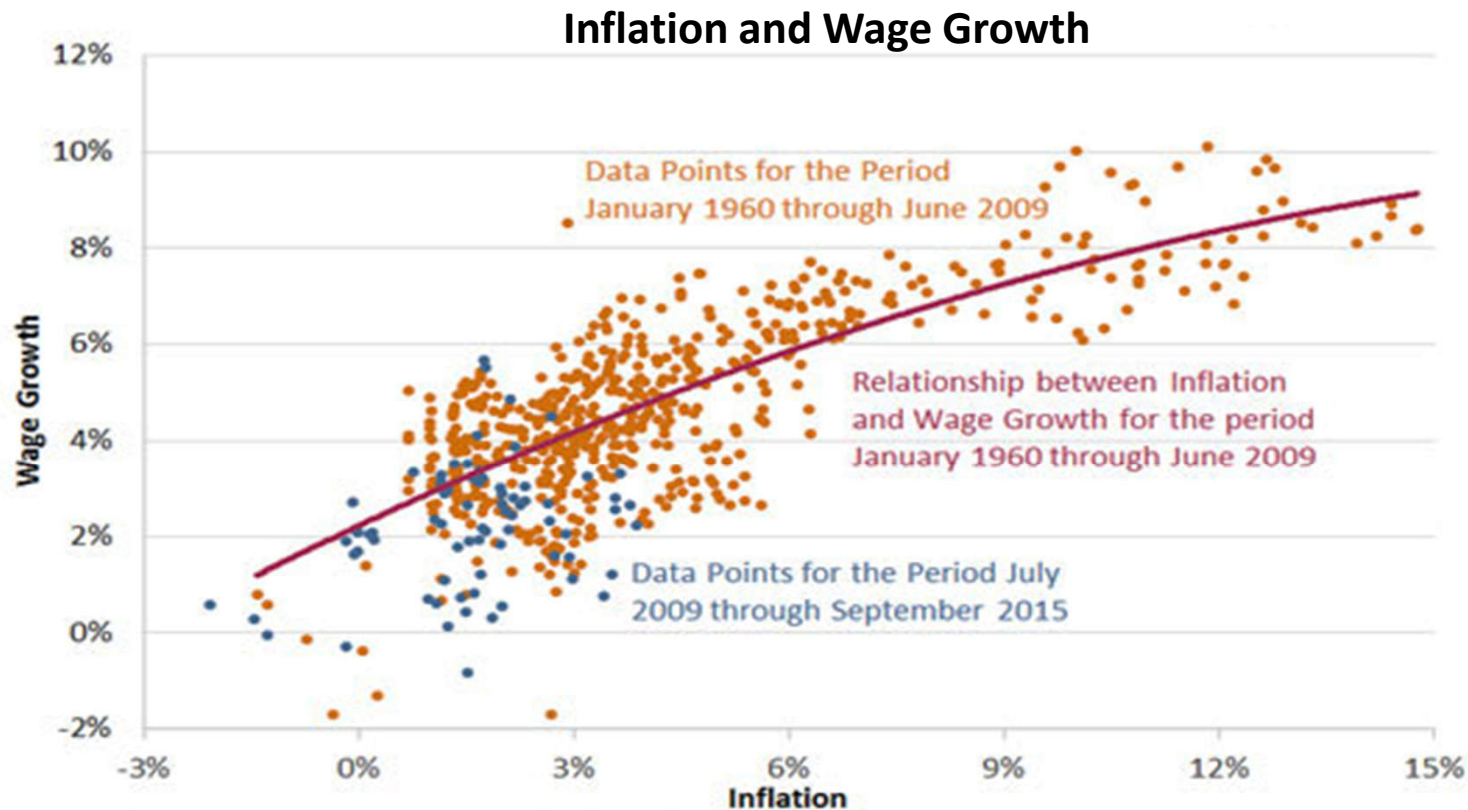
US Wages and Salary Growth (%)  
January 2000 – December 2021



Source: TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS.

**Wage Growth**

- Historically, wage growth is positively correlated with inflation.
- The higher the rate of wage growth the tighter correlation to inflation.



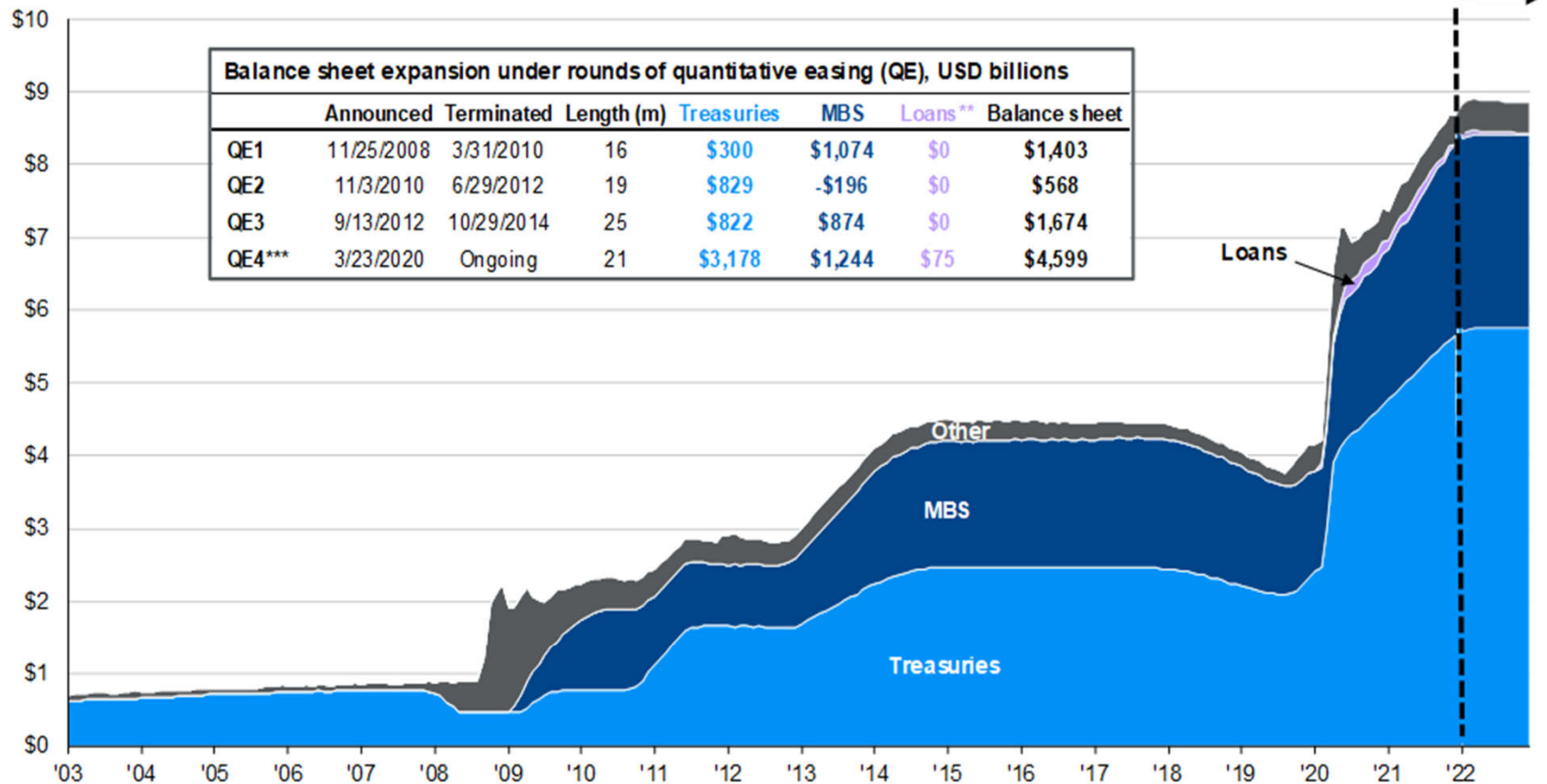
SOURCE: Federal Reserve Economic Data (FRED) and author's calculations.

FEDERAL RESERVE BANK of ST. LOUIS

**Federal Reserve's Quantitative Easing Program**

**The Federal Reserve balance sheet**

USD trillions



Source: FactSet, Federal Reserve, J.P. Morgan Investment Bank, J.P. Morgan Asset Management.

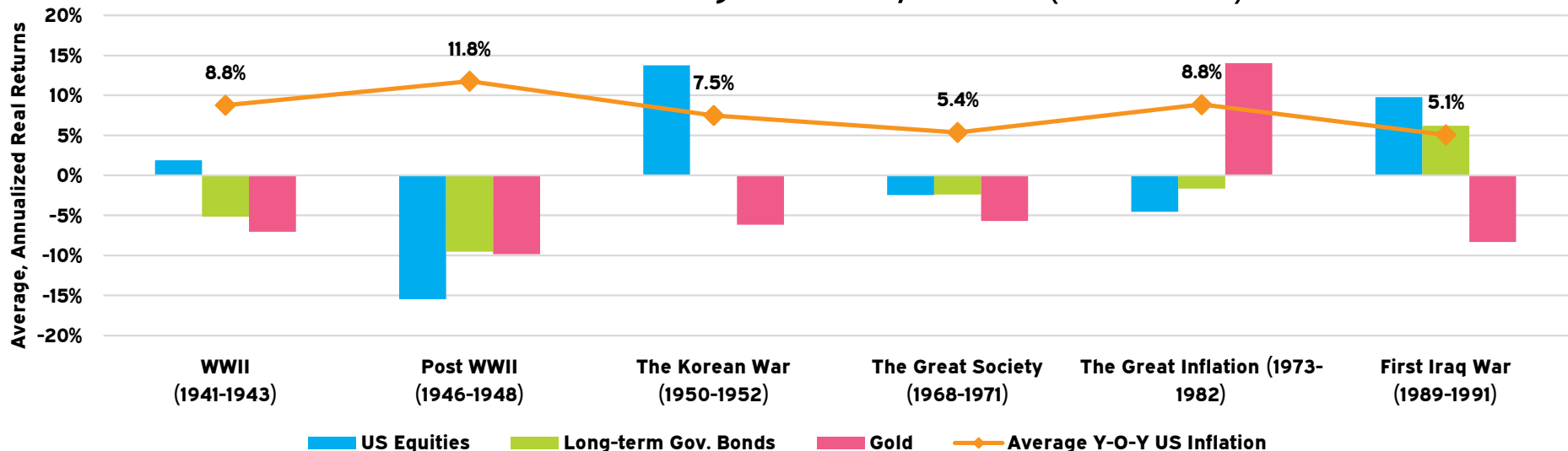
Currently, the balance sheet contains \$5.7tn in Treasuries and \$2.6tn in MBS. \*The end balance sheet forecast assumes the Federal Reserve reduces the pace of purchases of Treasuries and MBS by \$30bn per month, beginning January through mid-March, as suggested in the December 2021 FOMC meeting. \*\*Loans include liquidity and credit extended through corporate credit facilities established in 2020. Other includes primary, secondary and seasonal loans, repurchase agreements, foreign currency reserves and maiden lane securities. \*\*\*QE4 is ongoing and the expansion figures are as of the most recent Wednesday close as reported by the Federal Reserve. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data are as of December 31, 2021.

**Asset Performance 1914 - 2020**

- US equities, US government bonds, and gold have very long performance histories.
- Past performance may not predict future performance but examining historical behavior can be informative.
- Equity performance during inflationary periods may be lower due to rising costs of goods and services as well as higher borrowing costs.
- Interest rates tend to rise with inflation that erode bond prices and increase yields.
- Gold performed well in the 1970s but did not perform well in all inflationary periods.

**Asset Performance During Inflationary Periods (1914 – 2020)**



Source: FRED Periods of extended elevated inflation above 2%.

### **Complex topic with no easy answers.**

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- Inflation is impacted by, and-also directly impacts economic growth, monetary policy, interest rates, etc.
- The acceleration in inflation stemmed from the global shut-down due to the pandemic, creating a domino effect where transitory problems have contributed to persistent issues.
  - Higher energy prices
  - Wage growth
  - Labor shortage
  - Excess debt levels

### **Potential impact to portfolios.**

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- Investors with long time horizons, protecting (or hedging) against short-term inflation can lower long-term real returns.
  - Generating a long-term real rate of return should be the ultimate goal.
- Nearly all assets that rely on economic growth and corporate profitability (real return metrics), are expected to produce positive real returns over the long-term.
- Portfolios are often more susceptible to the “cure” for high inflation (higher interest rates) than the inflation itself.
- The closer a participant is to matriculation the more at risk they are from inflation and its cure.

### **Potential impact to participant behavior.**

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- Higher inflation could impact participants ability to save.
  - Currently, college tuition inflation (1.9%) remains meaningfully below CPI (7.5%).



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SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

# ScholarShare 529 College Savings Plan

March 16, 2021

4Q 2021 Investment Performance  
Status Report

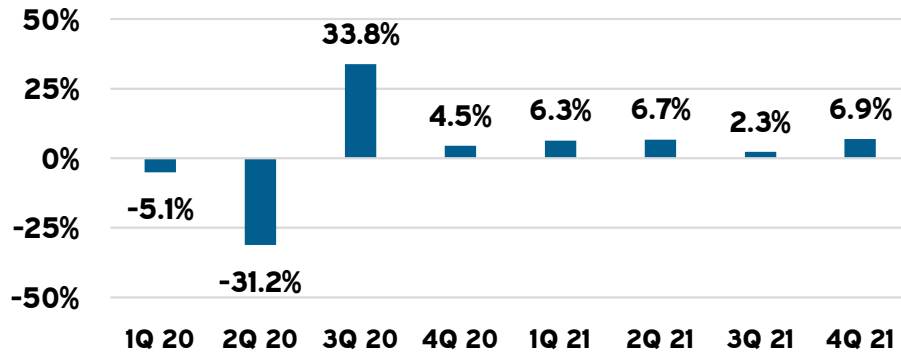
1. The World Markets in the Fourth Quarter of 2021
2. Review of ScholarShare Policy
3. Sensitivity Analyses
4. Summary Points
5. Enrollment Date Fund Analysis
6. Appendix

### Takeaways

- Global equities posted positive returns in December as continued corporate strength and declining Omicron variant fears served as tailwinds. Developed international equities led all assets classes, while Emerging markets trailed primarily due to concerns related to China. Rising inflation and the Fed signaling the end of quantitative easing weighed on US bonds, which declined slightly. High yield bonds led all Fixed Income classes in the risk-on environment.
- Equities posted positive returns over the quarter. Domestically, US Large Cap outperformed US Small Cap, with the T. Rowe Large Cap Value outpacing the Large Cap Growth fund, followed by the TIAA-CREF Quant Small Cap Equity. International Developed outperformed Emerging Markets, as the DFA Large Cap International Fund outperformed DFA Emerging Markets Core Equity fund by 2.4%.
- The TIAA-CREF Social Choice Equity fund led all equity funds for the quarter as well as trailing 1-year periods, generating returns of 9.5% and 26.5% respectively.
- Fixed income returns lagged equity over the quarter. The PIMCO Real Return fund had the strongest absolute return at 2.1%, though it trailed its benchmark by 30 bps. The TIAA-CREF Inflation-Linked Bond fund, T. Rowe Price Floating Rate fund and TIAA-CREF High Yield Bond fund all posted modest gains, closely mirroring their respective benchmarks.
- The TIAA Real Estate Securities fund outperformed all asset classes in the quarter as well as the trailing year, posting a 15.6% return and 39.4% respectively. The fund trailed its benchmark, however, by 0.6% for the quarter and by 1.9% for the year.

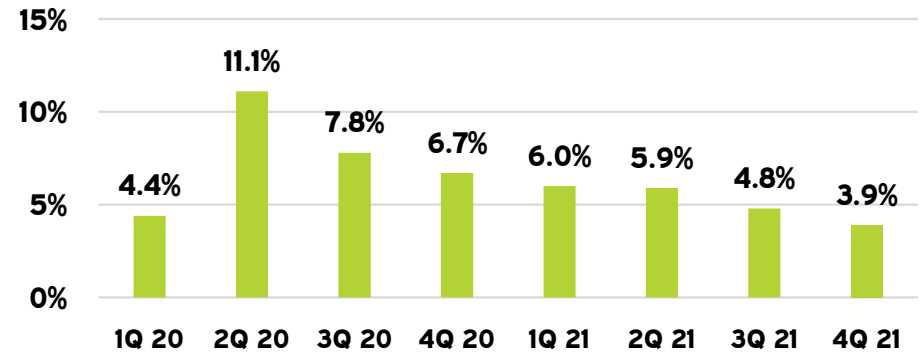
# **The World Markets Fourth Quarter of 2021**

#### Quarterly Real GDP (Annualized)



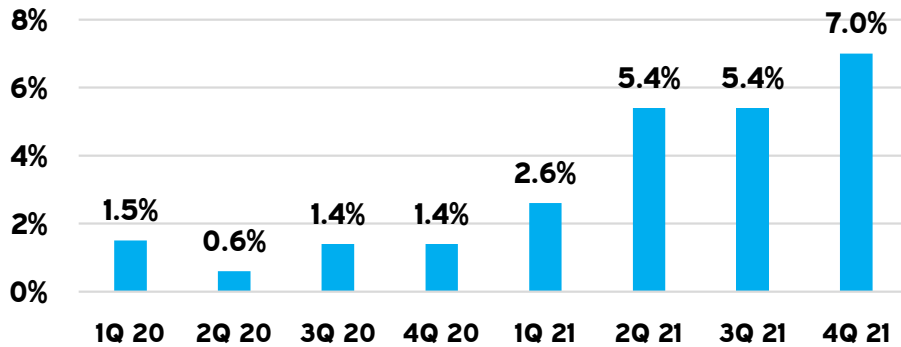
Source: Bureau of Economic Analysis. Data as of Q4 2021 and represents the advance estimate.

#### US Unemployment



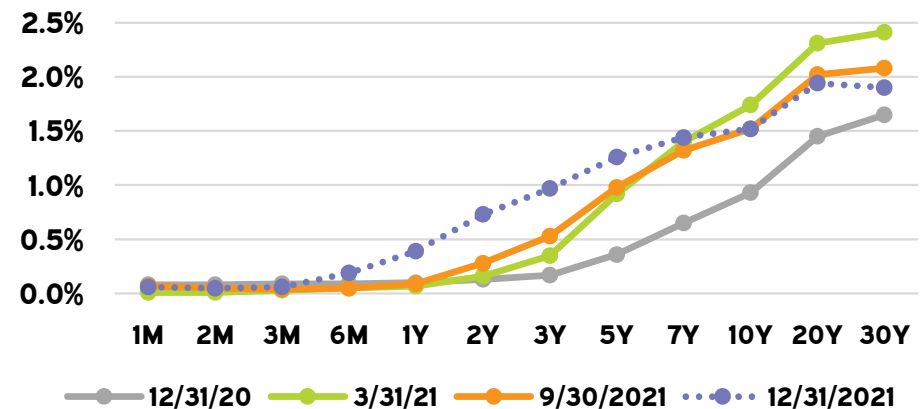
Source: Bureau of Labor Statistics. Data as of December 31, 2021. Seasonally adjusted.

#### US Inflation Trailing 12 Months



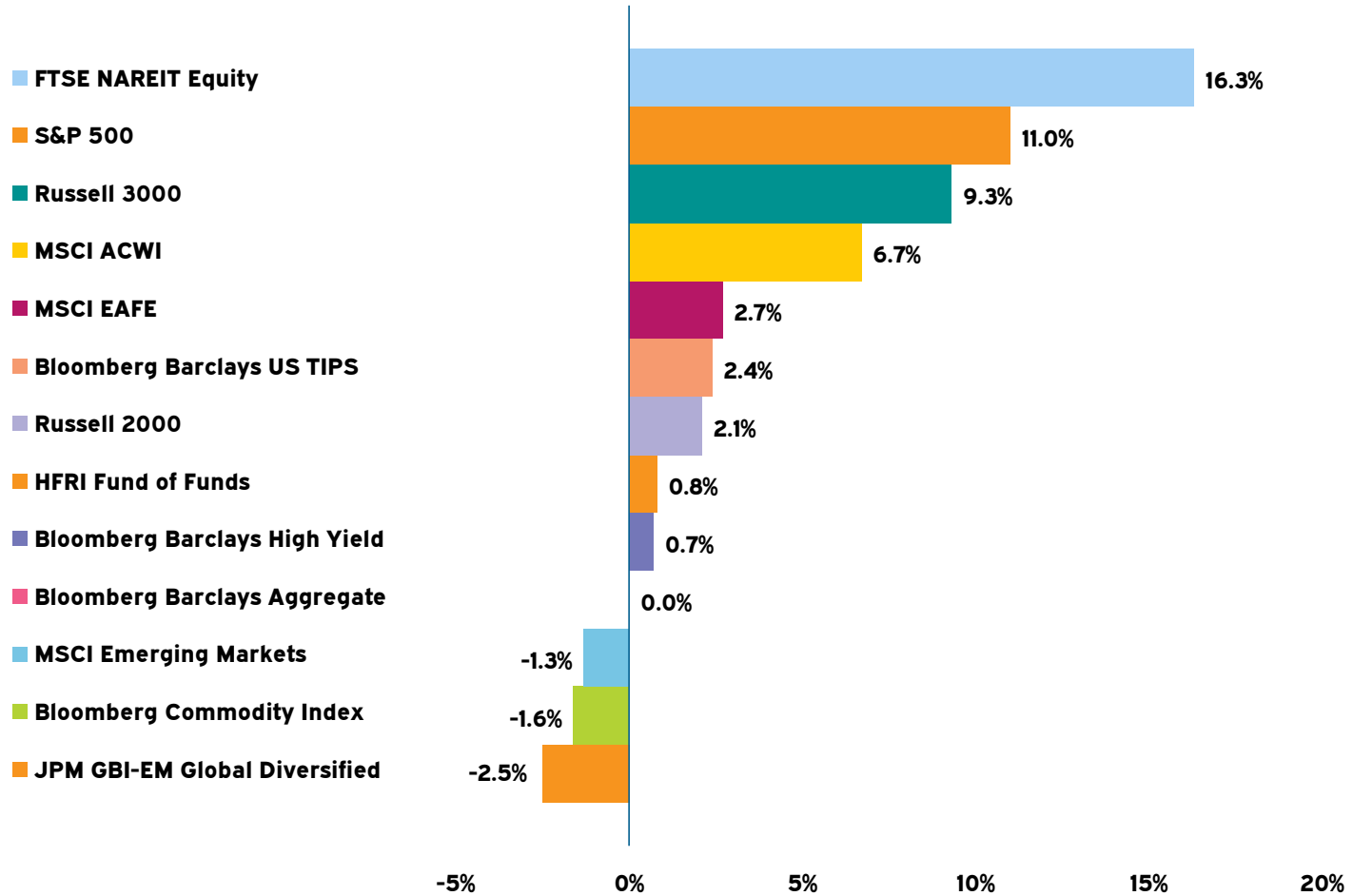
Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data as of December 31, 2021.

#### US Yield Curve



Source: US Department of the Treasury.

### The World Markets<sup>1</sup> Fourth Quarter of 2021



<sup>1</sup> Source: InvestorForce.

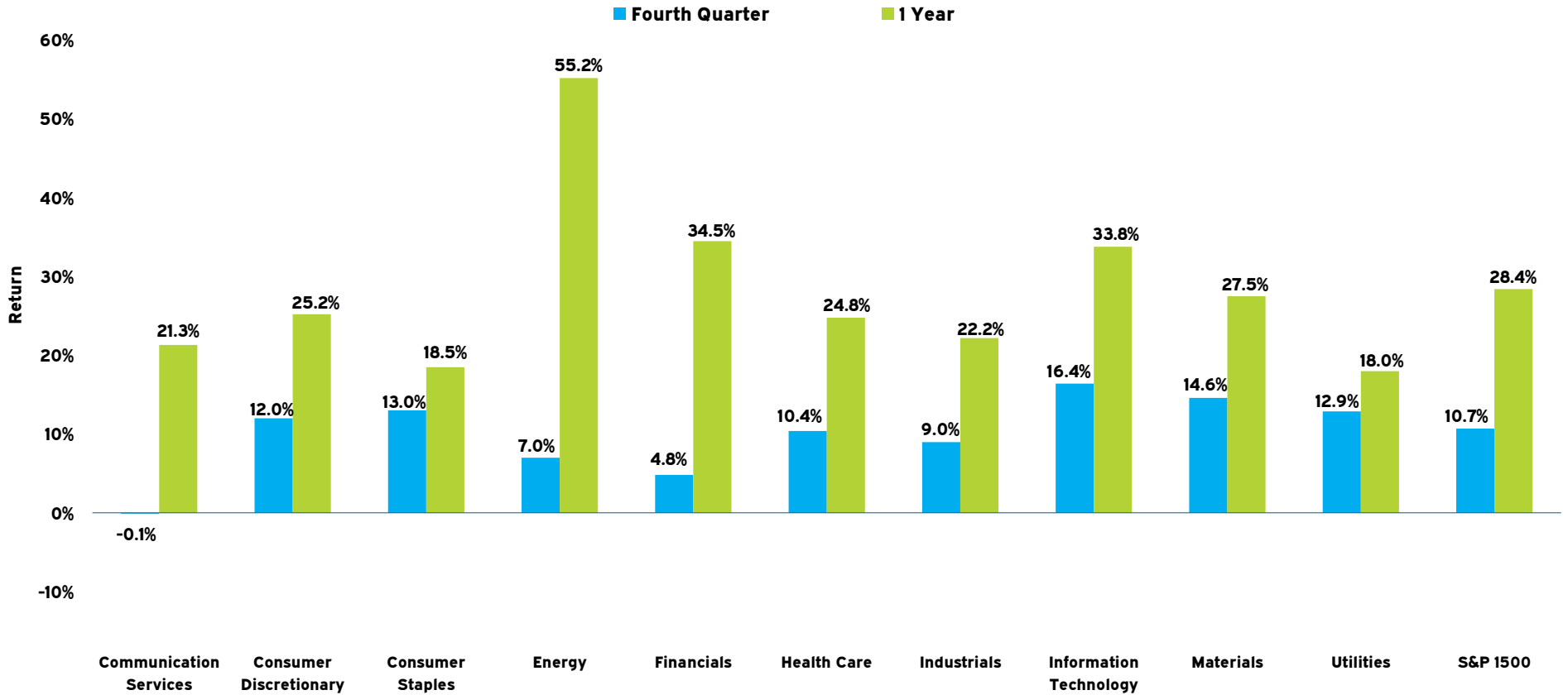
### Index Returns<sup>1</sup>

	4Q21 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
<b>Domestic Equity</b>					
S&P 500	11.0	28.7	26.1	18.5	16.6
Russell 3000	9.3	25.7	25.8	18.0	16.3
Russell 1000	9.8	26.5	26.2	18.4	16.5
Russell 1000 Growth	11.6	27.6	34.1	25.3	19.8
Russell 1000 Value	7.8	25.2	17.6	11.2	13.0
Russell MidCap	6.4	22.6	23.3	15.1	14.9
Russell MidCap Growth	2.8	12.7	27.5	19.8	16.6
Russell MidCap Value	8.5	28.3	19.6	11.2	13.4
Russell 2000	2.1	14.8	20.0	12.0	13.2
Russell 2000 Growth	0.0	2.8	21.2	14.5	14.1
Russell 2000 Value	4.4	28.3	18.0	9.1	12.0
<b>Foreign Equity</b>					
MSCI ACWI	6.7	18.5	20.4	14.4	11.9
MSCI ACWI (ex. US)	1.8	7.8	13.2	9.6	7.3
MSCI EAFE	2.7	11.3	13.5	9.5	8.0
MSCI EAFE (Local Currency)	3.9	18.7	13.4	8.4	10.1
MSCI EAFE Small Cap	0.1	10.1	15.6	11.0	10.8
MSCI Emerging Markets	-1.3	-2.5	10.9	9.9	5.5
MSCI Emerging Markets (Local Currency)	-0.9	-0.2	12.0	10.5	8.0
<b>Fixed Income</b>					
Bloomberg Barclays Universal	0.0	-1.1	5.2	3.8	3.3
Bloomberg Barclays Aggregate	0.0	-1.5	4.8	3.6	2.9
Bloomberg Barclays US TIPS	2.4	6.0	8.4	5.3	3.1
Bloomberg Barclays High Yield	0.7	5.3	8.8	6.3	6.8
JPM GBI-EM Global Diversified	-2.5	-8.7	2.1	2.8	0.7
<b>Other</b>					
FTSE NAREIT Equity	16.3	43.2	18.4	10.8	11.4
Bloomberg Commodity Index	-1.6	27.1	9.9	3.7	-2.9
HFRI Fund of Funds	0.8	6.5	8.6	5.8	4.6

<sup>1</sup> Source: InvestorForce.

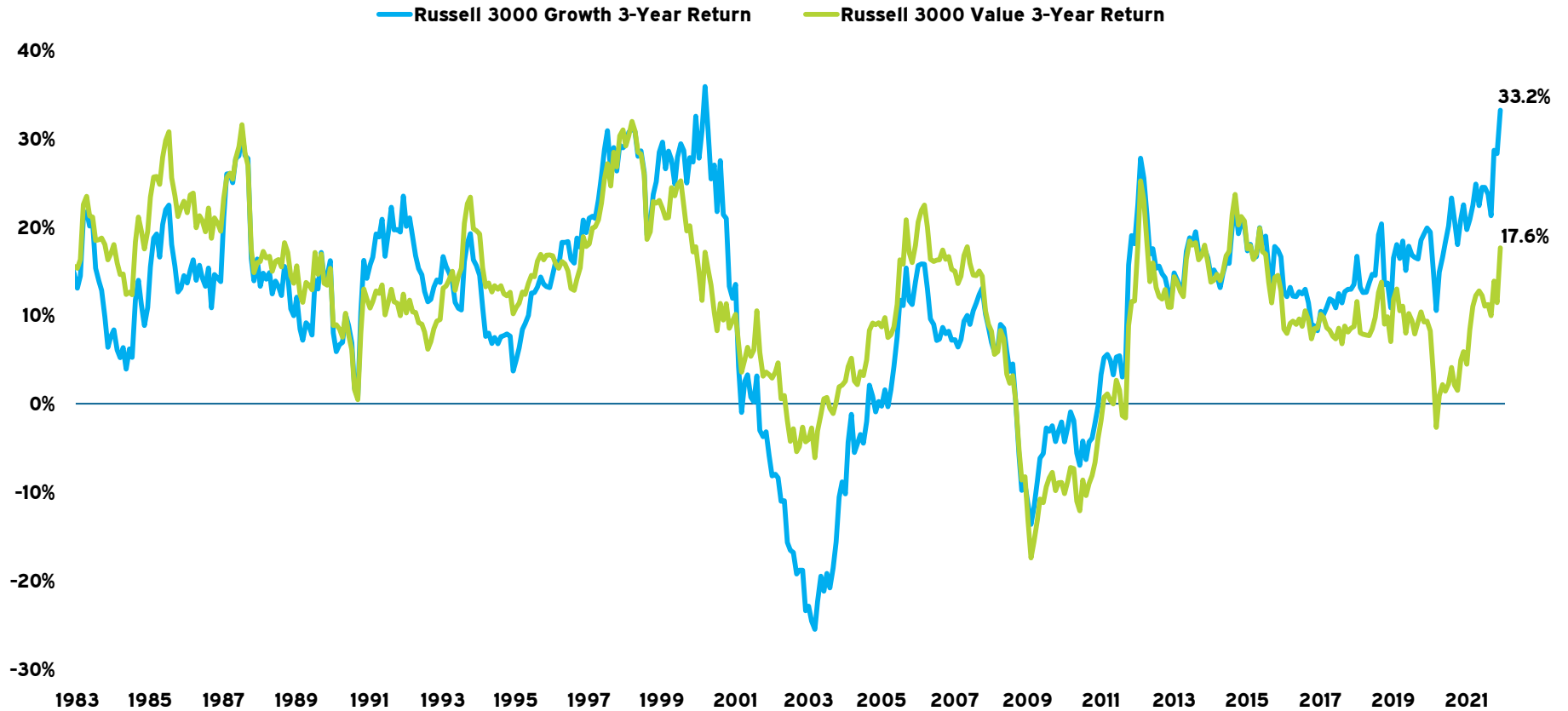


### S&P Sector Returns<sup>1</sup>



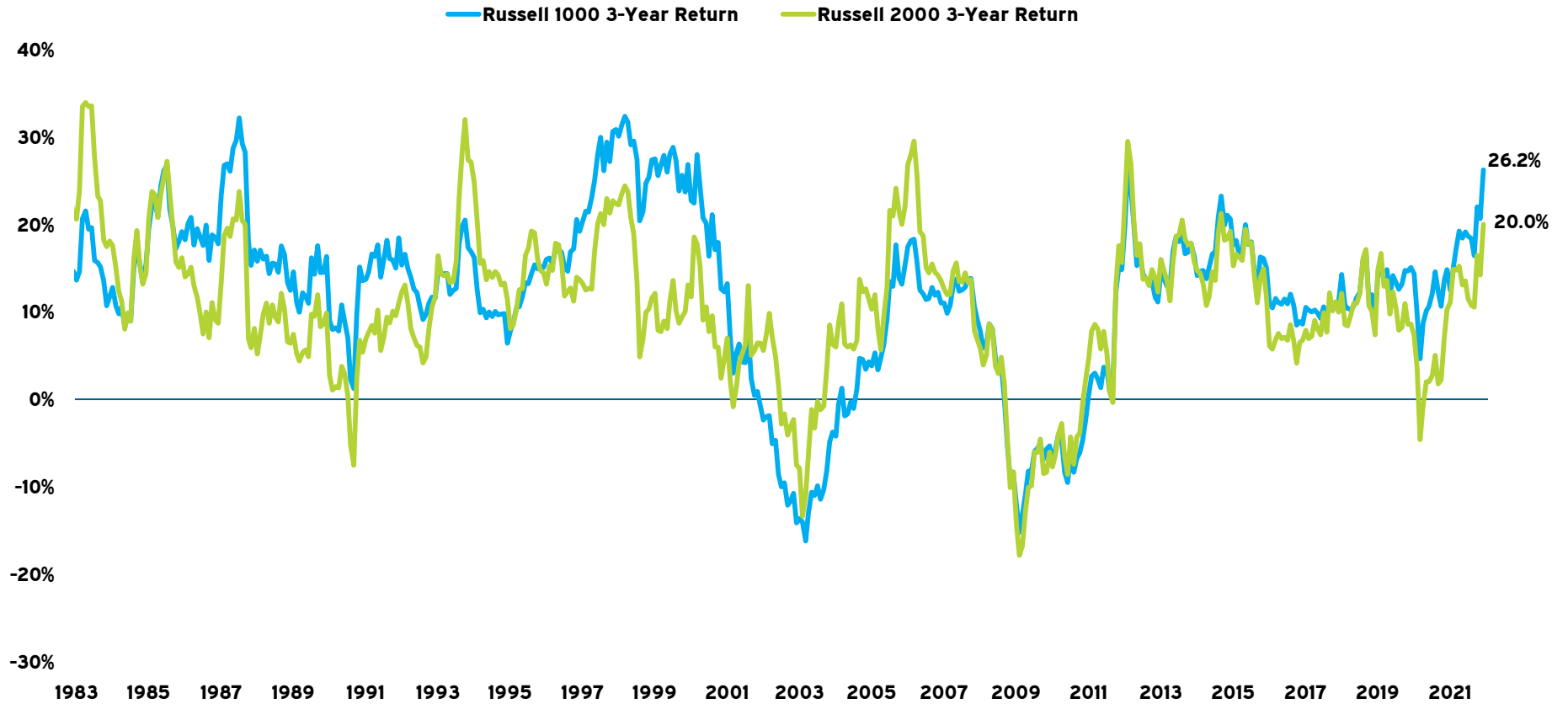
<sup>1</sup> Source: InvestorForce. Represents S&P 1500 (All Cap) data.

Growth and Value Rolling Three Year Returns<sup>1</sup>



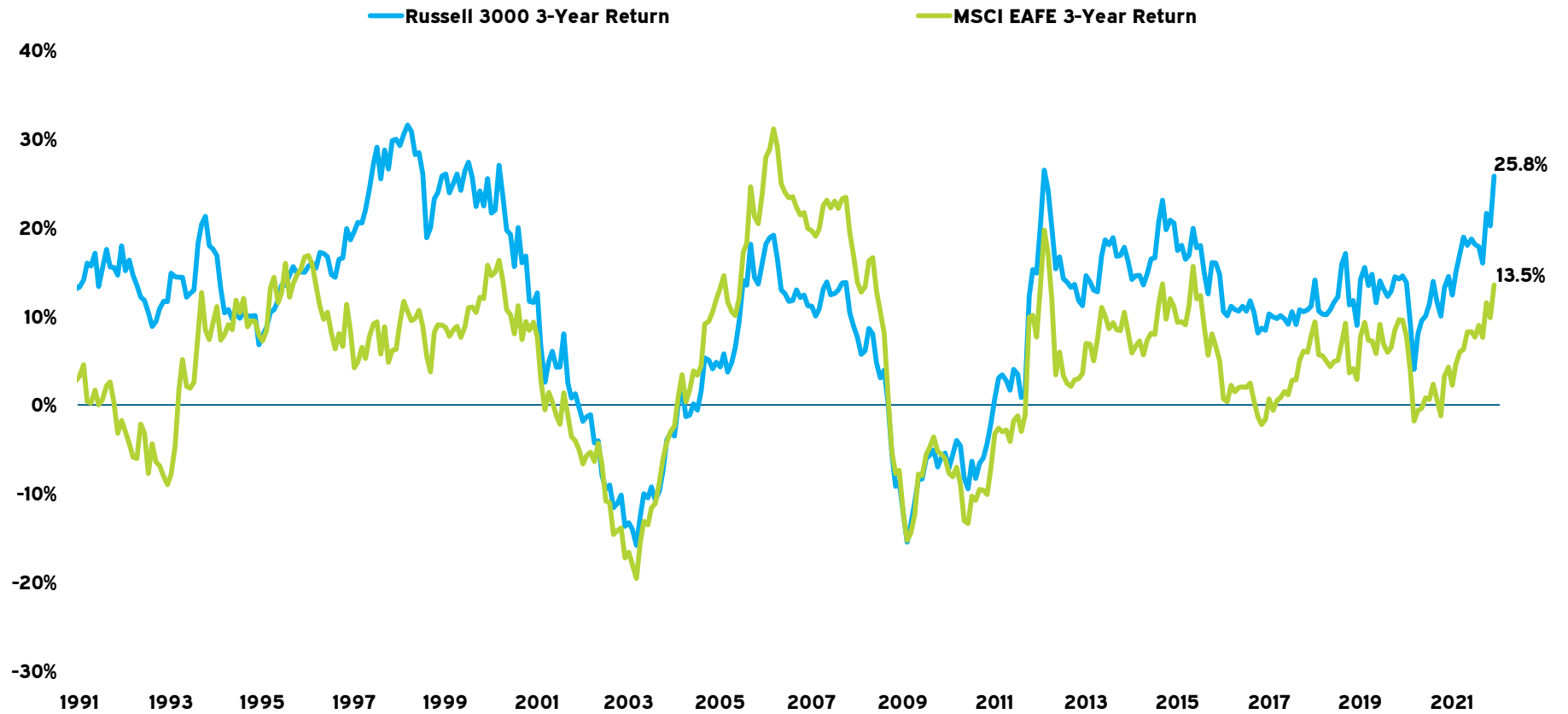
<sup>1</sup> Source: InvestorForce.

Large Cap (Russell 1000) and Small Cap (Russell 2000) Rolling Three Year Returns<sup>1</sup>



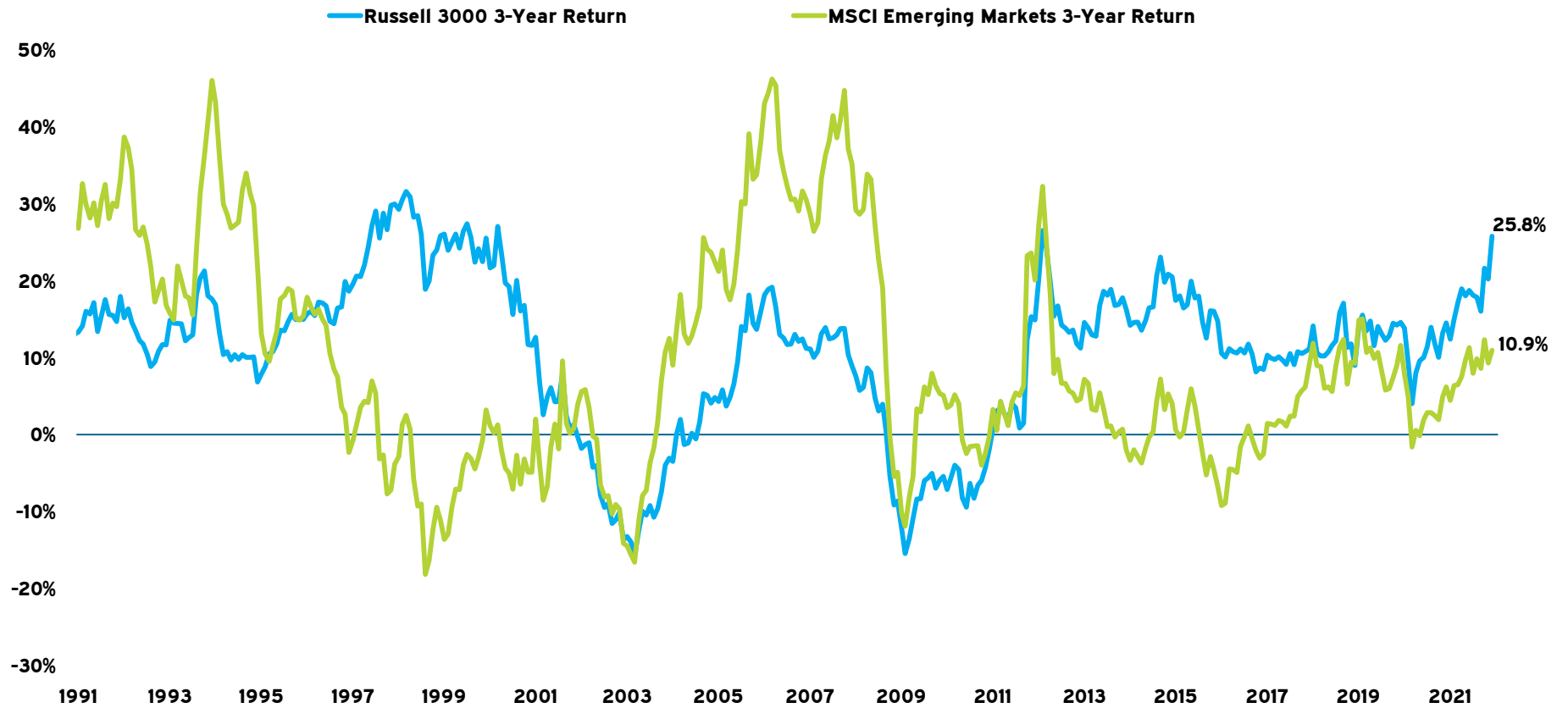
<sup>1</sup> Source: InvestorForce.

US and Developed Market Foreign Equity Rolling Three-Year Returns<sup>1</sup>



<sup>1</sup> Source: InvestorForce.

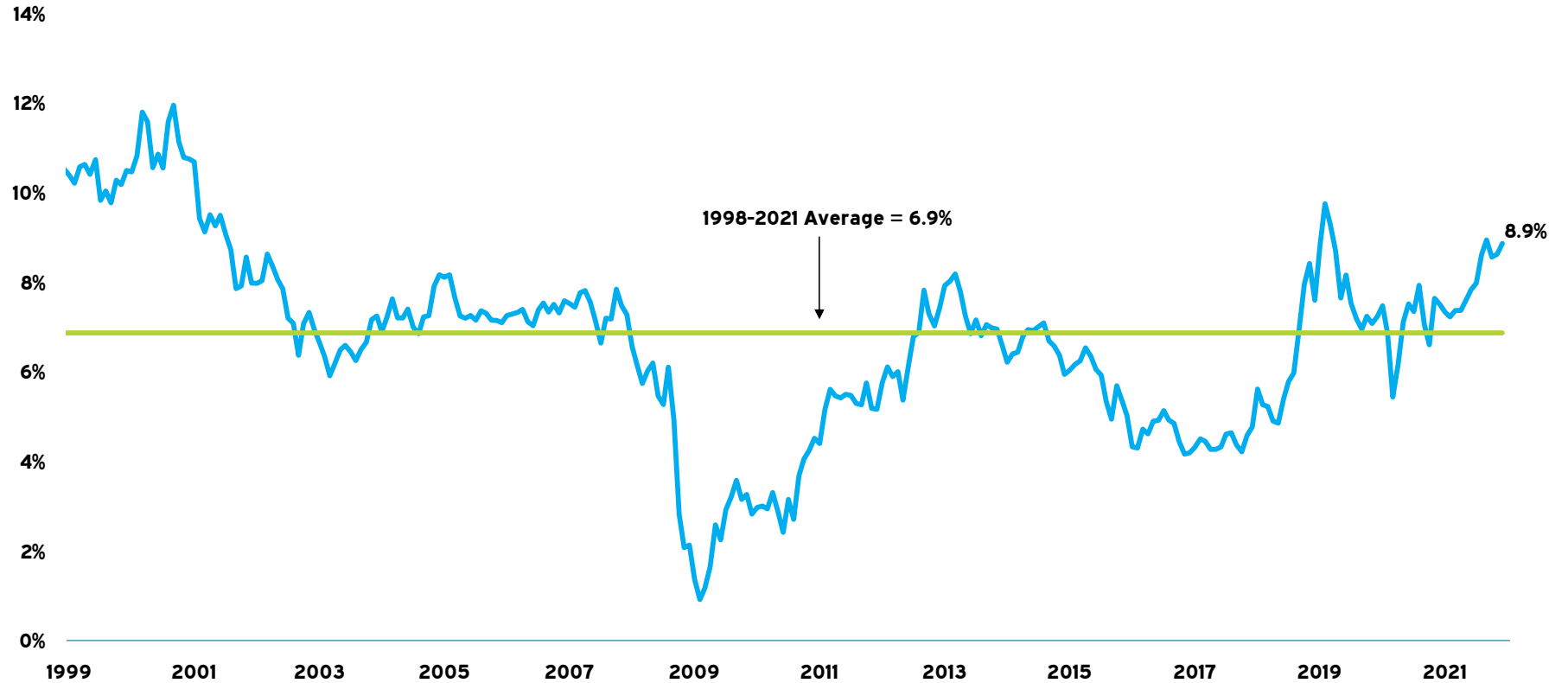
US and Emerging Market Equity Rolling Three-Year Returns<sup>1</sup>



<sup>1</sup> Source: InvestorForce.

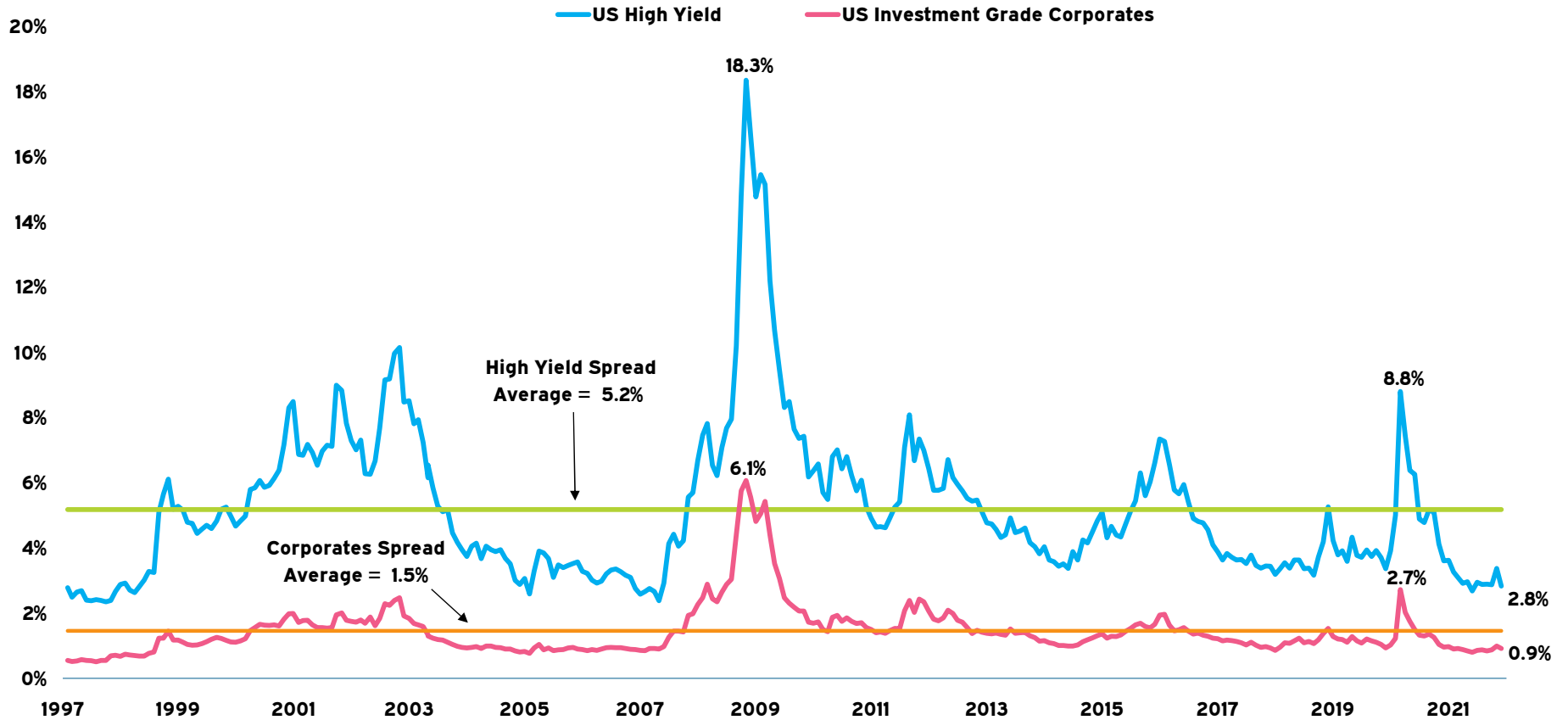
Rolling Ten-Year Returns: 65% Stocks and 35% Bonds<sup>1</sup>

— 65% Stocks (MSCI ACWI) / 35% Bonds (Bloomberg Barclays Aggregate) 10-Year Rolling Return



<sup>1</sup> Source: InvestorForce.

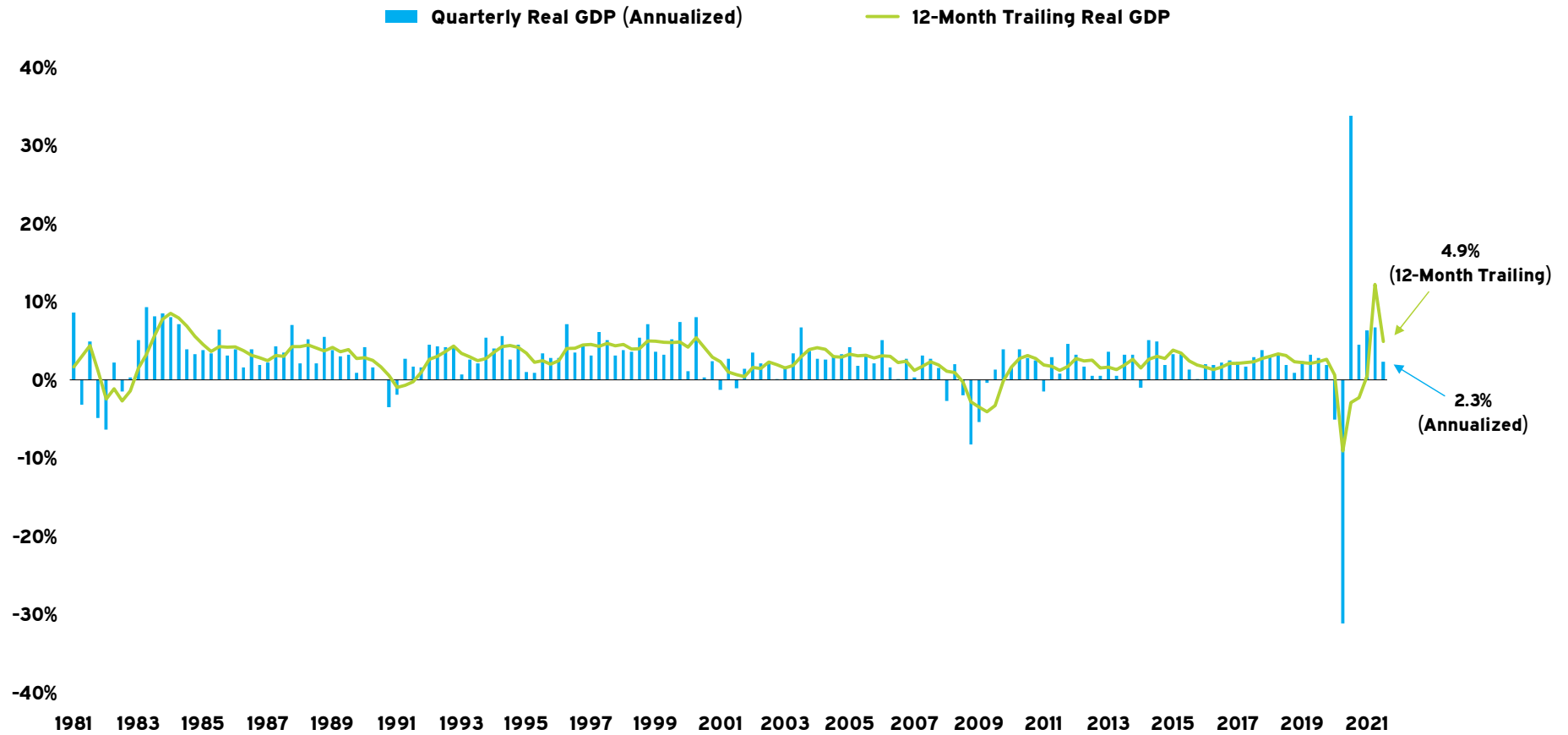
Credit Spreads vs. US Treasury Bonds<sup>1,2</sup>



<sup>1</sup> Source: Barclays Live. Data represents the OAS.

<sup>2</sup> The median high yield spread was 4.7% from 1997-2021.

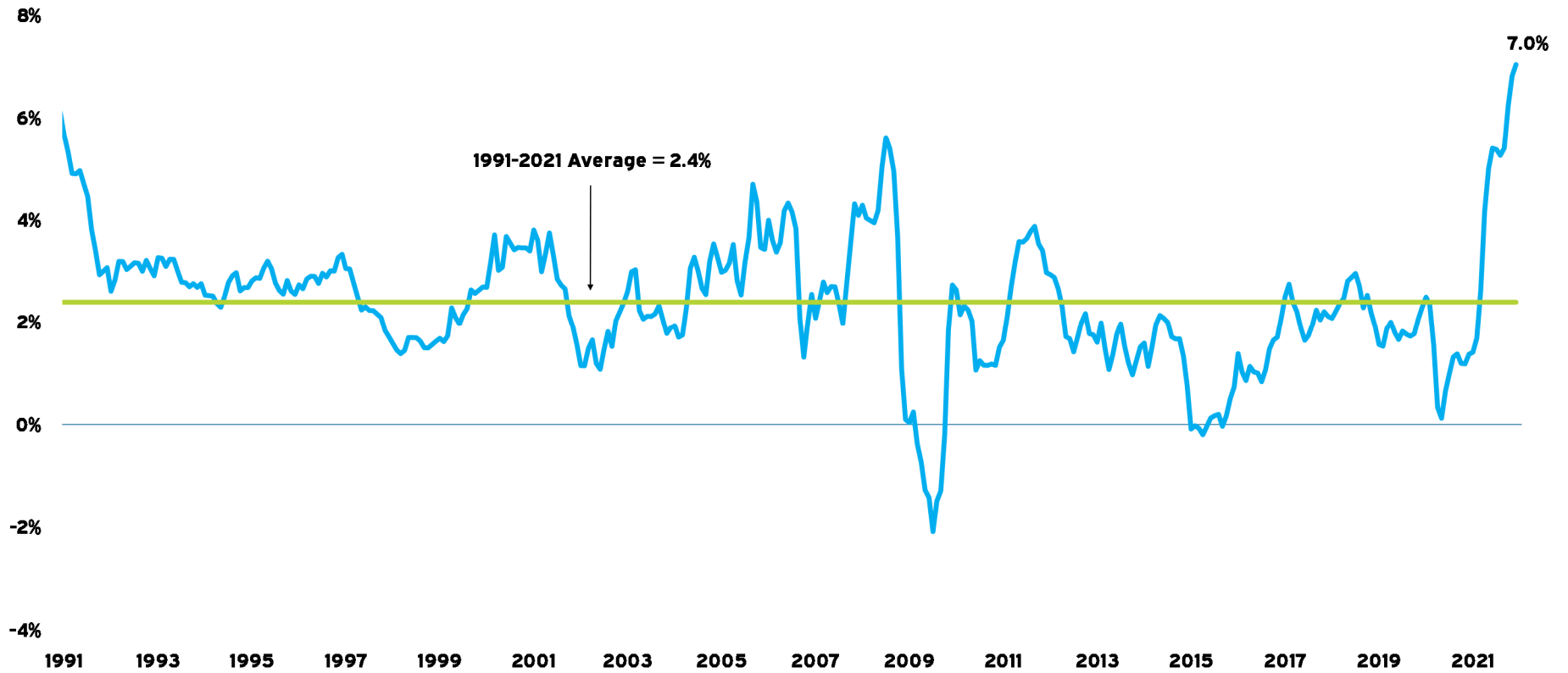
US Real Gross Domestic Product (GDP) Growth<sup>1</sup>



<sup>1</sup> Source: Bureau of Economic Analysis. Data is as of Q3 2021 and represents the third estimate.

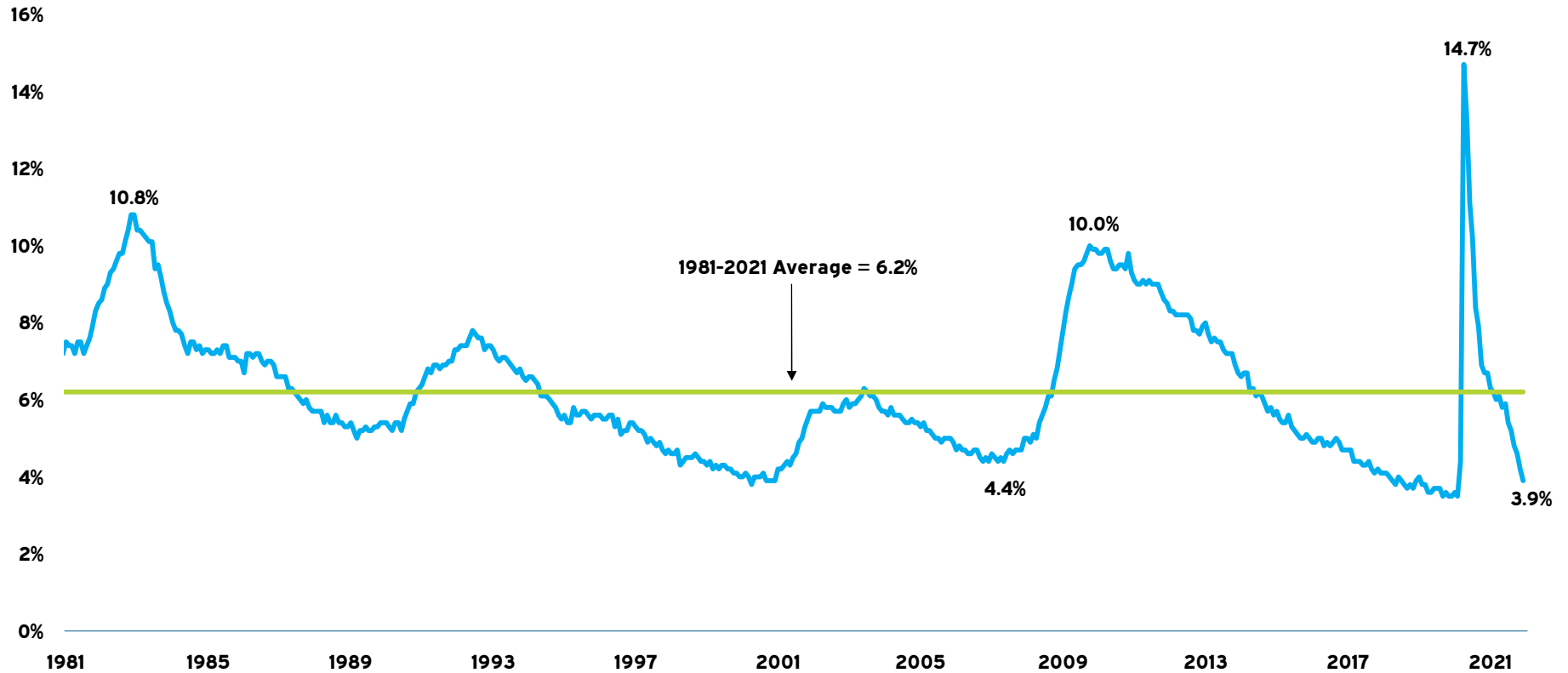


US Inflation (CPI)  
Trailing Twelve Months<sup>1</sup>



<sup>1</sup> Source: Bureau of Labor Statistics. Data is non-seasonally adjusted CPI, which may be volatile in the short-term. Data is as of December 31, 2021.

### US Unemployment<sup>1</sup>



<sup>1</sup> Source: Bureau of Labor Statistics. Data is as of December 31, 2021.

## **Review of ScholarShare Policy**

<b>Active Funds</b>		
<b>Fund</b>	<b>Asset Class</b>	<b>Benchmark</b>
T. Rowe Price Instl Large Cap Growth	Domestic Equity	Russell 1000 Growth TR USD
T. Rowe Price Instl Large Cap Value	Domestic Equity	Russell 1000 Value TR USD
TIAA-CREF Quant Small Cap Equity	Domestic Equity	Russell 2000 TR USD
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD
TIAA-CREF Real Estate Securities	Domestic Equity	FTSE NAREIT All Equity REITs TR
DFA Large Cap International	International Equity	MSCI World ex US NR USD
DFA Emerging Markets Core Equity	International Equity	MSCI EM NR USD
Metropolitan West Total Return Bond	Fixed Income	BBg BarCap US Agg Bond TR USD
PIMCO Real Return	Fixed Income	BBg BarCap US Trsy US TIPS TR USD
PIMCO Income	Fixed Income	BBg BarCap US Agg Bond TR USD
TIAA-CREF Inflation-Linked Bond	Fixed Income	BBg BarCap US TIPS 1-10 year TR USD
T. Rowe Price Institutional Floating Rate	High Yield	S&P/LSTA Performing Loan TR
TIAA-CREF High Yield Bond	High Yield	BofA ML US HY C Pay BB-B Constd TR
<b>Passive Funds</b>		
<b>Fund</b>	<b>Asset Class</b>	<b>Benchmark</b>
TIAA-CREF Equity Index	Domestic Equity	Russell 3000 TR USD
TIAA-CREF S&P 500 Index	Domestic Equity	S&P 500 TR
TIAA-CREF International Equity Index	International Equity	MSCI EAFE NR USD
TIAA-CREF Emerging Markets Equity Index	International Equity	MSCI EM NR USD
TIAA-CREF Bond Index	Fixed Income	BBg BarCap US Agg Bond TR USD
<b>T-C Life Funding Agreements</b>		
T-C Life Funding Agreements <sup>1</sup>	---	---

<sup>1</sup> Investment through a funding agreement with TIAA-CREF Life Insurance Company. Not benchmarked to an index, rather, portfolio performance is monitored using a set of qualitative guidelines.

## Performance Criteria for Placing a Fund on Watch

### Actively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (> 60 months)	Morningstar Sustainability Rating
Domestic Equity	Fund return < bench return -3.5% for 6 consecutive months	Fund return < bench return -1.75% for 6 consecutive months	VRR < 0.97 for 6 consecutive months	--
International Equity	Fund return < bench return -4.5% for 6 consecutive months	Fund return < bench return -2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months	--
Fixed Income	Fund return < bench return -1.0% for 6 consecutive months	Fund return < bench return -0.5% for 6 consecutive months	VRR < 0.98 for 6 consecutive months	--
High Yield	Fund return < bench return -6.5% for 6 consecutive months	Fund return < bench return -3.25% for 6 consecutive months	VRR < 0.96 for 6 consecutive months	--
Social Choice	Fund return < bench return -5.0% for 6 consecutive months	Fund return < bench return -2.50% for 6 consecutive months	VRR < 0.9 for 6 consecutive months	Above Average

### Passively Managed Funds

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error > 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error > 0.70% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error > 0.55% for 6 consecutive months	Fd annlzd return < bench annlzd return - 0.35% for 6 consecutive months

<sup>1</sup> Return discounts from a benchmark return based on 2/3rds of the typical tracking error estimates of the specified type of fund manager.

<sup>2</sup> Annualized return is the average annual return of either the manager or its benchmark.

<sup>3</sup> VRR – Value Relative Ratio – is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.

<sup>4</sup> Tracking error is a measure of the volatility of the average annual difference between the manager's return and the benchmark's return.

Performance Criteria for Placing a Fund on Watch (Continued)

T-C Life Funding Agreements<sup>1</sup>  
(based on non-investment performance criteria)

Fund Name	Financial Strength	Mortgage Portfolio	Bond Portfolio	Account Diversification
T-C Life Funding Agreements	Moody's $\geq$ Aa2 Standard & Poor's $\geq$ AA A.M. Best $\geq$ A+ Fitch $\geq$ AA	100% in Good Standing	At least 90% Investment Grade	Portfolio is diversified across asset classes and types

<sup>1</sup> The T-C Life Funding Agreements are measured against a set of non-investment performance criteria (see above) in a published TIAA-CREF report every quarter.

## Investment Status Schedule

Performance Category <sup>1</sup>	Actively Managed Portfolios	Passively Managed Portfolios
Positive	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark.</li> </ul>	<ul style="list-style-type: none"> <li>Performance exceeds the benchmark (first 1-12 month period), or</li> <li>Tracking error is within the allowable range<sup>1</sup> (short, medium, and long time periods).</li> </ul>
Acceptable	<ul style="list-style-type: none"> <li>Performance meets or is under the benchmark and is within the allowable range.</li> </ul>	<ul style="list-style-type: none"> <li>Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only).</li> </ul>
Caution	<ul style="list-style-type: none"> <li>Performance is below allowable range but either:               <ol style="list-style-type: none"> <li>for less than six consecutive months, or</li> <li>the Board has not taken (or decided not to take) a formal action to place the asset class or individual fund portfolio on Watch even though performance has been below allowable range for six months or longer.</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Tracking error falls outside of the allowable range but either               <ol style="list-style-type: none"> <li>for less than six consecutive months, or</li> <li>the Board has not voted to place the asset class or stand alone fund on Watch</li> </ol> </li> </ul>
Watch <sup>2</sup>	<ul style="list-style-type: none"> <li>Performance is below allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund on Watch.</li> </ul>	<ul style="list-style-type: none"> <li>Tracking error falls outside of the allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund portfolio on Watch.</li> </ul>

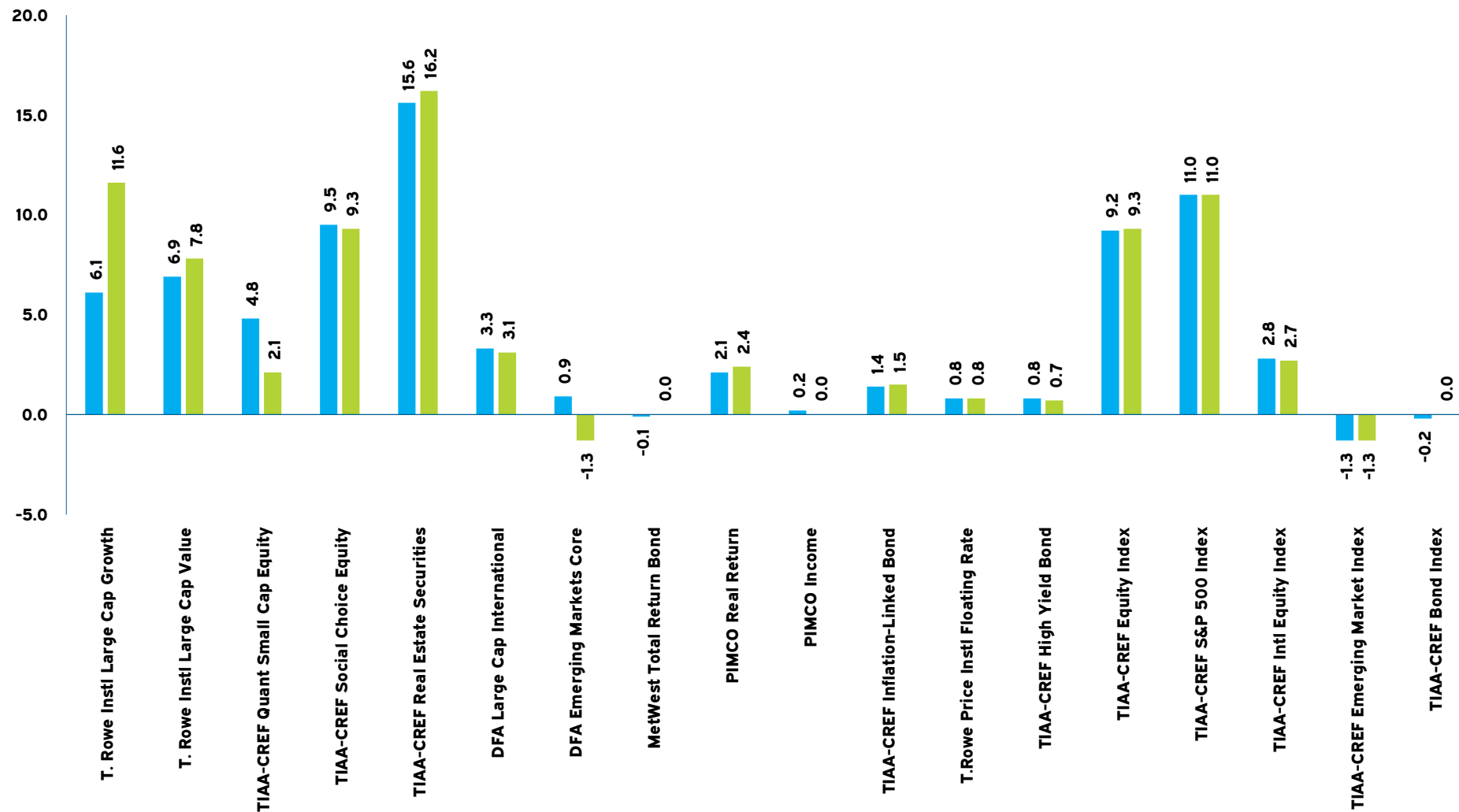
<sup>1</sup> Ranges are shown in the Investment Performance Criteria Schedules.

<sup>2</sup> The amount of time generally required before an investment is put on watch.

Summary of Fund Performance 12/31/21

Quarter

Fund Index

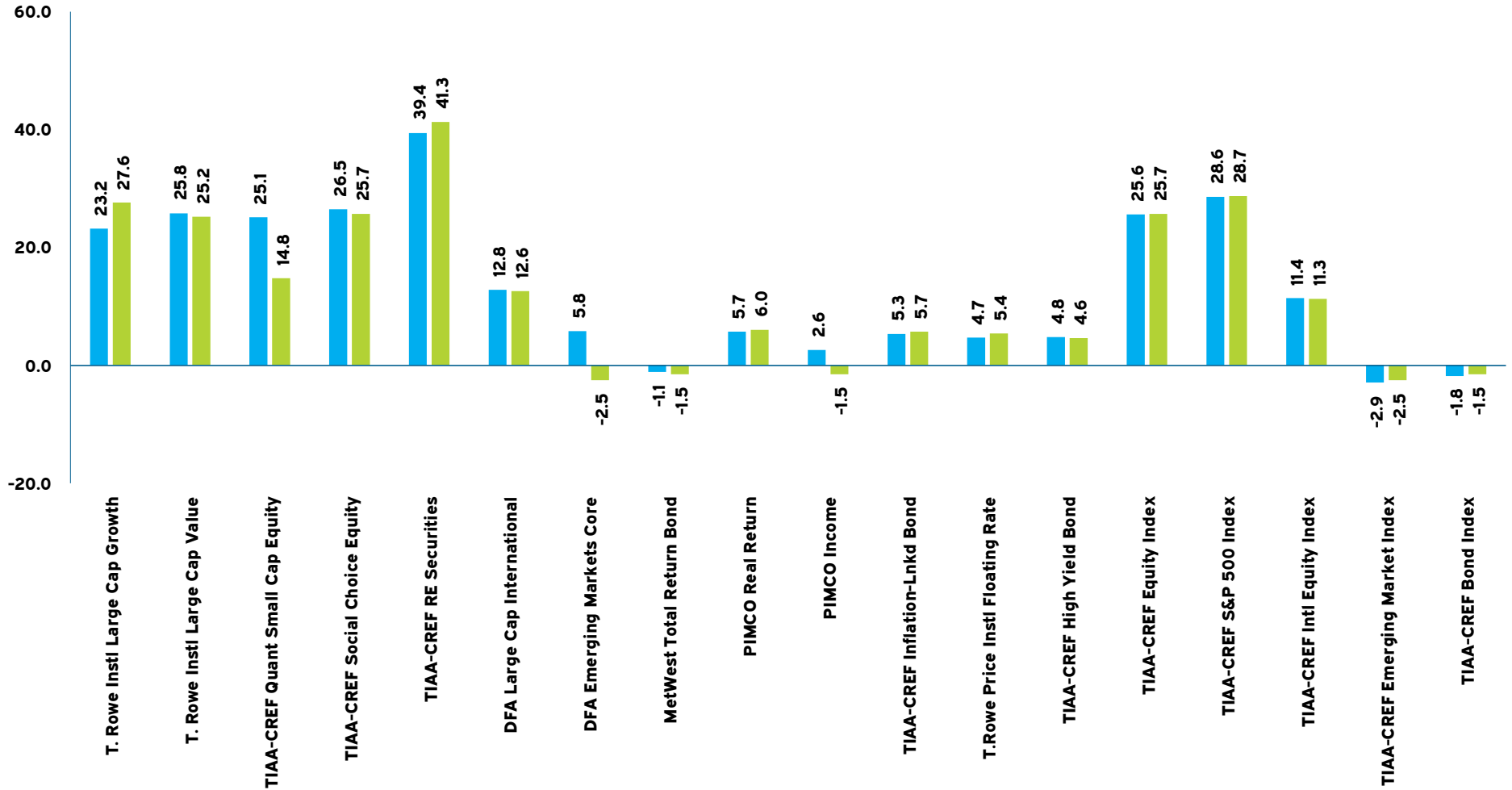




### Summary of Fund Performance 12/31/21

1 Year

Fund Index



### Summary of Fund Performance Status

Program	Total Funds	Positive	Acceptable	Caution	Watch <sup>^</sup>
Number of Funds	19	10	7	2	0
% of Funds	100%	53%	37%	10%	0%
% of Program Assets	100%	46%	49%	5%	--
Fund Status ↑	3	3	—	—	--
Fund Status ↓	2	—	1	1	--
Domestic Equity Funds	7	4	2	1	--
Intl Equity Funds	4	3	—	1	--
Fixed Income Funds	5	2	3	—	--
High Yield Funds	2	—	2	—	--
Funding Agreement	1	1	—	—	--

<sup>^</sup>Includes funds on Watch and new funds qualifying for Watch status. Number has not been adjusted to remove funds no longer qualifying for Watch.

- Ninety percent of the Program’s funds have either a Positive or Acceptable performance status.
- Three funds improved in status over the quarter:
  - TIAA-CREF Quant Small Cap Equity
  - TIAA-CREF Real Estate Securities
  - DFA Emerging Markets Core Equity
- No funds are on “Watch” status.
- The TIAA-CREF Emerging Markets Index qualifies for watch, but we recommend keeping it off watch for reasons detailed in the watch memo.

### Summary of Fund Performance Status

Funds	Prior Quarter		Current Quarter	
	Status	On Watch	Status	On Watch
<b>Active Funds</b>				
T. Rowe Price Instl Large Cap Growth	Acceptable	No	Caution	
T. Rowe Price Instl Large Cap Value	Positive	No	Positive	
TIAA-CREF Quant Small Cap Equity	Acceptable	No	Positive	
TIAA-CREF Social Choice Equity	Positive	No	Positive	
TIAA-CREF Real Estate Securities	Acceptable	No	Positive	
DFA Large Cap International	Positive	No	Positive	
DFA Emerging Markets Core Equity	Acceptable	No	Positive	
Metropolitan West Total Return Bond	Positive	No	Positive	
PIMCO Real Return	Positive	No	Acceptable	
PIMCO Income	Positive	No	Positive	
TIAA-CREF Inflation-Linked Bond	Acceptable	No	Acceptable	
T. Rowe Price Instl Floating Rate	Acceptable	No	Acceptable	
TIAA-CREF High-Yield Bond	Acceptable	No	Acceptable	
<b>Passive Funds</b>				
TIAA-CREF Equity Index	Acceptable	No	Acceptable	
TIAA-CREF S&P 500 Index	Acceptable	No	Acceptable	
TIAA-CREF International Equity Index <sup>1</sup>	Positive	No	Positive	
TIAA-CREF Emerging Markets Index <sup>1</sup>	Caution	No	Caution	
TIAA-CREF Bond Index	Acceptable	No	Acceptable	
<b>T-C Life Funding Agreements</b>				
T-C Life Funding Agreements	Positive	No	Positive	

- Current status is based on Short-Term (rolling 12-month), Medium-Term (rolling 36-month), and Long-Term (rolling 60 -month) evaluation results.
- According to the Investment Status Schedule on the previous page, the portfolio's overall "Current Status" equals the lowest status as achieved by one or more of the criteria during the quarter.

<sup>1</sup> The TIAA-CREF International Equity and Emerging Markets Index funds' returns have been adjusted to remove F/X and Fair Value impact for the purpose of monitoring.

Summary of Fund Assets as of 12/31/2021

Funds	Assets (\$)	% of Total
<b>Active Funds</b>		
T. Rowe Price Instl Large Cap Growth	518,226,137	3.96%
T. Rowe Price Instl Large Cap Value	524,184,979	4.01%
TIAA-CREF Quant Small Cap Equity	115,845,311	0.89%
TIAA-CREF Social Choice Equity	304,894,526	2.33%
TIAA-CREF Real Estate Securities	351,275,717	2.69%
DFA Large Cap International	476,664,248	3.64%
DFA Emerging Markets Core Equity	118,819,548	0.91%
Metropolitan West Total Return Bond	694,869,503	5.31%
PIMCO Real Return	277,861,516	2.12%
PIMCO Income	277,192,955	2.12%
TIAA-CREF Inflation-Linked Bond	424,358,638	3.24%
T. Rowe Price Instl Floating Rate	138,376,081	1.06%
TIAA-CREF High-Yield Bond	211,413,685	1.62%
<b>Active Funds Total</b>	<b>4,433,982,843</b>	<b>33.9%</b>
<b>Passive Funds</b>		
TIAA-CREF Equity Index	2,722,799,706	20.81%
TIAA-CREF S&P 500 Index	999,607,451	7.64%
TIAA-CREF International Equity Index	835,669,588	6.39%
TIAA-CREF Emerging Markets Index	205,375,181	1.57%
TIAA-CREF Bond Index	1,581,015,325	12.09%
<b>Passive Funds Total</b>	<b>6,344,467,251</b>	<b>48.5%</b>
<b>T-C Life Funding Agreements</b>		
T-C Life Funding Agreements	2,302,937,746	17.6%
<b>TOTAL</b>	<b>12,461,067,555</b>	<b>100.0%</b>

Portfolio Management Overview

Fund	Ticker	Current PM Team	Recent PM Departures <sup>1</sup>
T.Rowe Price Large Cap Growth	TRLGX	01/01/2017- Taymour R. Tamaddon	
T.Rowe Price Large Cap Value	TILCX	03/31/2000- 02/25/2010- 01/01/2015- 10/01/2021- John D. Linehan Mark S. Finn Heather K. McPherson Gabriel Solomon	
TIAA-CREF Quant Small Cap Equity	TISEX	03/01/2016- 03/01/2019- Pei Chen Max Kozlov	10/23/2006- 10/1/2020 Adam Cao
TIAA-CREF Social Choice Equity	TISCX	12/31/2005- 05/30/2014- Philip James Campagna Lei Liao	
TIAA-CREF Real Estate Securities	TIREX	12/31/2005- 07/10/2006- David Copp Brendan W. Lee	
DFA Large Cap International	DFALX	02/28/2010- 07/21/2015- 02/28/2020- 02/28/2020- Jed S. Fogdall Bhanu P. Singh Joel P. Schneider Arun C. Keswani	02/28/2010-02/28/2019 07/21/2015-02/28/2020 Joseph H. Chi Mary T. Phillips
DFA Emerging Markets Core Equity	DFCEX	02/28/2010- 07/21/2015- 07/21/2015- 02/28/2017- 02/28/2019- Jed S. Fogdall Allen Pu Bhanu P. Singh Mary T. Phillips William Collins-Dean	02/28/2010-02/28/2019 Joseph H. Chi
Metropolitan West Total Return Bond	MWTIX	03/31/1997- 03/31/1997- 12/31/2004- Stephen M. Kane Laird R. Landman Bryan T. Whalen	03/31/1997-12/31/2021 Tad Rivelle
PIMCO Real Return	PRRIX	01/09/2019- 12/11/2019- Stephen A. Rodosky Daniel He	01/02/2015-01/09/2019 12/31/2007-12/11/2019 Jeramie Banet Mihir P. Worah
PIMCO Income	PIMIX	03/30/2007- 03/15/2013- 07/30/2018- Daniel J. Ivascyn Alfred T. Murata Joshua Anderson	

<sup>1</sup> Recent is defined as having occurred in the last three years.  
Source: MorningStar

**Portfolio Management Overview (continued)**

Fund	Ticker	Current PM Team	Recent PM Departures <sup>1</sup>
TIAA-CREF Inflation-Linked Bond	TIILX	08/21/2008- 08/01/2016- 08/01/2019- John Michael Cerra Nicholas Travaglino Chad W. Kemper	
T.Rowe Price Floating Rate	RPIFX	05/01/2009- Paul M. Massaro	
TIAA-CREF High Yield	TIHYX	03/31/2006- 10/01/2011- Kevin R. Lorenz Jean C. Lin	
TIAA-CREF Equity Index	TIEIX	12/31/2005- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF S&P 500 Index	TISPX	12/31/2005- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF International Equity Index	TCIEX	08/01/2005- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF Emerging Markets Equity Index	TEQLX	08/31/2010- 05/30/2014- 03/01/2019- Philip James Campagna Lei Liao Darren Tran	
TIAA-CREF Bond Index	TBIIX	12/31/2009- 08/24/2011- Lijun (Kevin) Chen James Tsang	

**Observations:**

- Gabriel Solomon joined the T.Rowe Price Large Cap team in October 2021.
- Tad Rivelle left the Metropolitan West Total Return Bond team at the end of December 2021.

<sup>1</sup> Recent is defined as having occurred in the last three years.  
Source: MorningStar

## **Sensitivity Analyses**

Total Plan | As of December 31, 2021

	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Active Funds</b>										
TRowe Price Large Cap Growth I	6.1	64	23.2	45	30.2	52	26.0	16	20.8	6
<i>Russell 1000 Growth</i>	11.6	11	27.6	18	34.1	12	25.3	22	19.8	14
<i>Large Growth MStar MF Median</i>	7.7		22.3		30.4		23.0		18.2	
TRowe Price Large Cap Value I	6.9	81	25.8	61	18.0	52	11.7	52	13.3	31
<i>Russell 1000 Value</i>	7.8	59	25.2	69	17.6	58	11.2	66	13.0	46
<i>Large Value MStar MF Median</i>	8.4		26.5		18.0		11.8		12.9	
TIAA-CREF Quant Small Cap Equity I	4.8	53	25.1	41	20.4	56	12.1	56	13.8	47
<i>Russell 2000</i>	2.1	75	14.8	70	20.0	60	12.0	57	13.2	56
<i>Small Cap MStar MF Median</i>	5.0		22.2		21.1		12.4		13.5	
TIAA-CREF Social Choice Equity I	9.5	64	26.5	56	26.0	29	18.0	40	15.7	50
<i>Russell 3000</i>	9.3	66	25.7	65	25.8	38	18.0	40	16.3	29
<i>Large Blend MStar MF Median</i>	10.1		26.9		25.3		17.5		15.7	
TIAA-CREF Real Estate Securities I	15.6	56	39.4	81	22.8	17	14.8	4	13.0	8
<i>FTSE NAREIT All Equity REIT</i>	16.2	41	41.3	63	19.9	66	12.5	37	12.2	28
<i>Real Estate MStar MF Median</i>	15.8		42.1		20.6		11.6		11.5	
DFA Large Cap International I	3.3	32	12.8	19	14.2	43	9.9	42	8.0	51
<i>MSCI World ex USA</i>	3.1	38	12.6	21	14.1	45	9.6	54	7.8	57
<i>Foreign Large Blend MStar MF Median</i>	2.7		10.0		13.8		9.7		8.0	
DFA Emerging Markets Core Equity I	0.9	15	5.8	19	11.8	54	10.1	45	6.1	50
<i>MSCI Emerging Markets</i>	-1.3	54	-2.5	58	10.9	65	9.9	50	5.5	62
<i>Diversified Emerging Mkts MStar MF Median</i>	-1.1		-1.7		12.0		9.8		6.1	



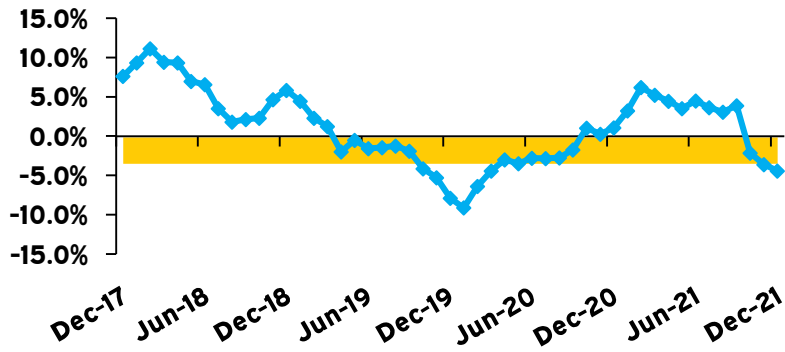
	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Metropolitan West Total Return Bond I	-0.1	51	-1.1	77	5.6	55	4.0	62	--	--
<i>Bloomberg US Aggregate TR</i>	0.0	30	-1.5	89	4.8	82	3.6	89	2.9	98
<i>Intermediate Core Plus Bond MStar MF Median</i>	-0.1		-0.6		5.8		4.2		3.7	
PIMCO Real Return	2.1	29	5.7	44	8.7	11	5.5	13	3.2	13
<i>Bloomberg US TIPS TR</i>	2.4	16	6.0	33	8.4	27	5.3	25	3.1	22
<i>Inflation-Protected Bond MStar MF Median</i>	2.0		5.6		8.0		5.0		2.8	
PIMCO Income I	0.2	30	2.6	52	5.5	69	5.1	33	7.0	1
<i>Bloomberg US Aggregate TR</i>	0.0	52	-1.5	99	4.8	80	3.6	89	2.9	99
<i>Multisector Bond MStar MF Median</i>	0.0		2.6		6.2		4.8		4.9	
TIAA-CREF Inflation Link Bond I	1.4	75	5.3	63	6.6	76	4.2	79	2.3	80
<i>Bloomberg US TIPS 1-10 Yr TR</i>	1.5	68	5.7	41	7.0	72	4.5	69	2.6	65
<i>Inflation-Protected Bond MStar MF Median</i>	2.0		5.6		8.0		5.0		2.8	
TRowe Price Floating Rate I	0.8	15	4.7	48	5.2	27	4.0	26	4.4	38
<i>S&amp;P/LSTA Performing Loan TR USD</i>	0.8	18	5.4	25	5.9	5	4.5	6	4.9	5
<i>Bank Loan MStar MF Median</i>	0.6		4.6		4.8		3.7		4.2	
TIAA-CREF High-Yield I	0.8	21	4.8	58	7.6	69	5.1	80	6.0	65
<i>ICE BofA BB-B US High Yield Constrained TR</i>	0.7	39	4.6	63	8.6	34	6.0	28	6.5	27
<i>High Yield Bond MStar MF Median</i>	0.6		5.1		8.2		5.6		6.2	

Total Plan | As of December 31, 2021

	QTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
<b>Passive Funds</b>										
TIAA-CREF Equity Index I	9.2	67	25.6	67	25.7	42	17.9	42	16.3	32
<i>Russell 3000</i>	9.3	66	25.7	65	25.8	38	18.0	40	16.3	29
<i>Large Blend MStar MF Median</i>	10.1		26.9		25.3		17.5		15.7	
TIAA-CREF S&P 500 Index I	11.0	27	28.6	24	26.0	30	18.4	24	16.5	20
<i>S&amp;P 500</i>	11.0	24	28.7	22	26.1	27	18.5	20	16.6	16
<i>Large Blend MStar MF Median</i>	10.1		26.9		25.3		17.5		15.7	
TIAA-CREF International Equity Index	2.8	49	11.4	33	13.7	55	9.7	51	8.2	45
<i>MSCI EAFE</i>	2.7	51	11.3	36	13.5	60	9.5	56	8.0	50
<i>Foreign Large Blend MStar MF Median</i>	2.7		10.0		13.8		9.7		8.0	
TIAA-CREF Emerging Markets Equity Index	-1.3	54	-2.9	60	10.7	70	9.7	53	5.3	68
<i>MSCI Emerging Markets</i>	-1.3	54	-2.5	58	10.9	65	9.9	50	5.5	62
<i>Diversified Emerging Mkts MStar MF Median</i>	-1.1		-1.7		12.0		9.8		6.1	
TIAA-CREF Bond Index I	-0.2	52	-1.8	76	4.6	77	3.4	79	2.7	84
<i>Bloomberg US Aggregate TR</i>	0.0	13	-1.5	56	4.8	68	3.6	67	2.9	74
<i>Intermediate Core Bond MStar MF Median</i>	-0.2		-1.5		5.1		3.7		3.2	

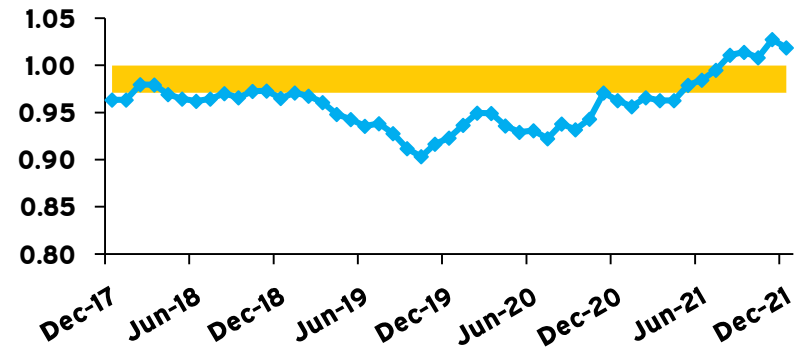
## Sensitivity Analyses: Active Funds

#### Short Term – Rolling 12-Month Excess Return



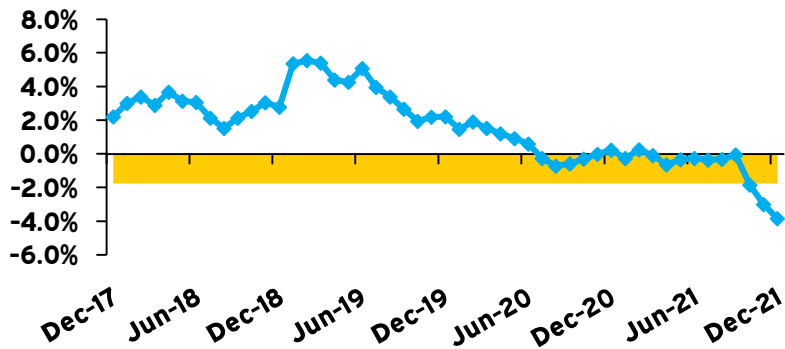
Results fall in the acceptable range.  
 Probationary Threshold -3.50%

#### Long Term – VRR



Results fall in the positive range.  
 Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the caution range.  
 Probationary Threshold -1.75%

Benchmark: Russell 1000 Growth

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Large Cap Growth I	6.1	23.2	30.2	26.0	20.1	11/20/2011
Russell 1000 Growth	11.6	27.6	34.1	25.3	19.4	

#### Monitoring Status

Caution

### TRowe Price Large Cap Growth I | As of December 31, 2021

#### Description:

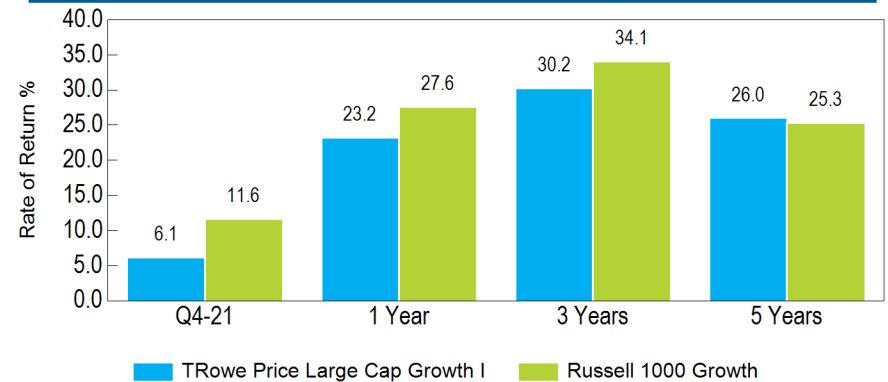
The investment seeks to provide long-term capital appreciation through investments in common stocks of growth companies.

The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in the common stocks of large-cap companies. The advisor defines a large-cap company as one whose market capitalization is larger than the median market capitalization of companies in the Russell 1000® Growth Index, a widely used benchmark of the largest U.S. growth stocks. The fund is non-diversified.

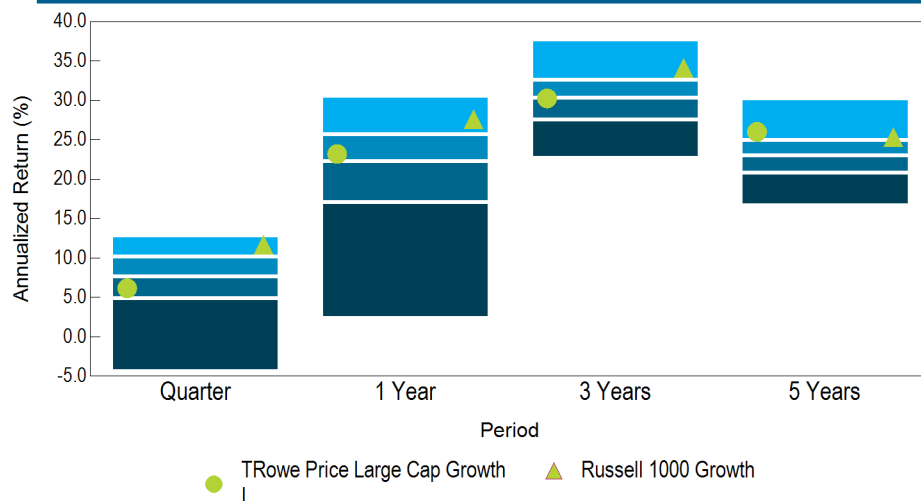
#### Portfolio Fund Information as of December 31, 2021

<b>Ticker</b>	TRLGX
<b>Morningstar Category</b>	Large Growth
<b>Average Market Cap (\$mm)</b>	327,818.09
<b>Net Assets (\$mm)</b>	24,371.06
<b>% Assets in Top 10 Holdings</b>	52.87
<b>Total Number of Holdings</b>	69
<b>Manager Name</b>	Taymour R. Tamaddon
<b>Manager Tenure</b>	5
<b>Expense Ratio</b>	0.56%
<b>Closed to New Investors</b>	No

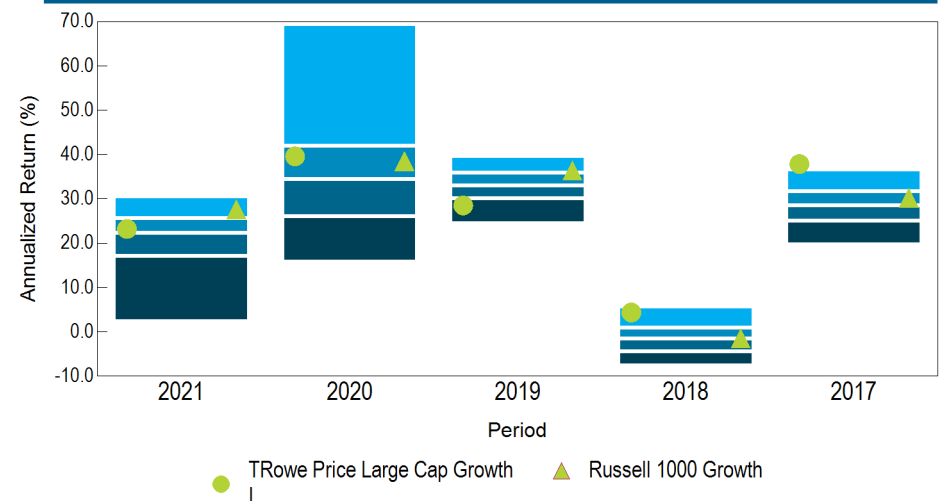
#### Return Summary



#### Large Growth MStar MF Return Comparison

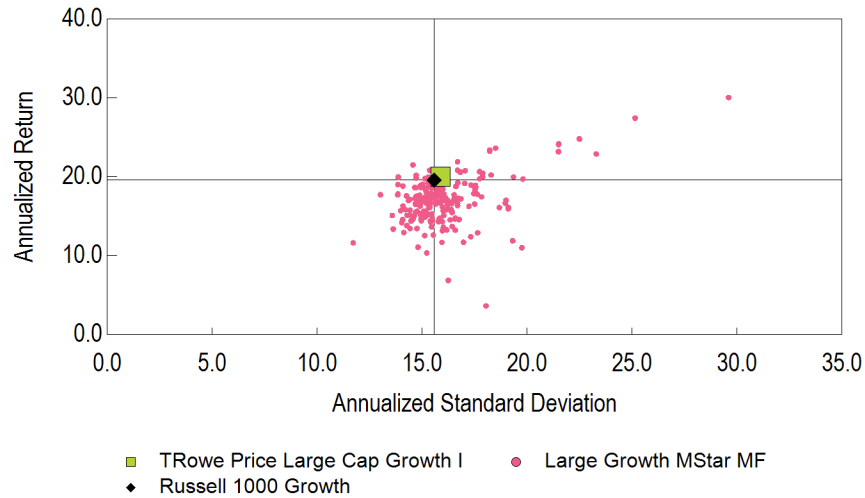


#### Large Growth MStar MF Return Comparison

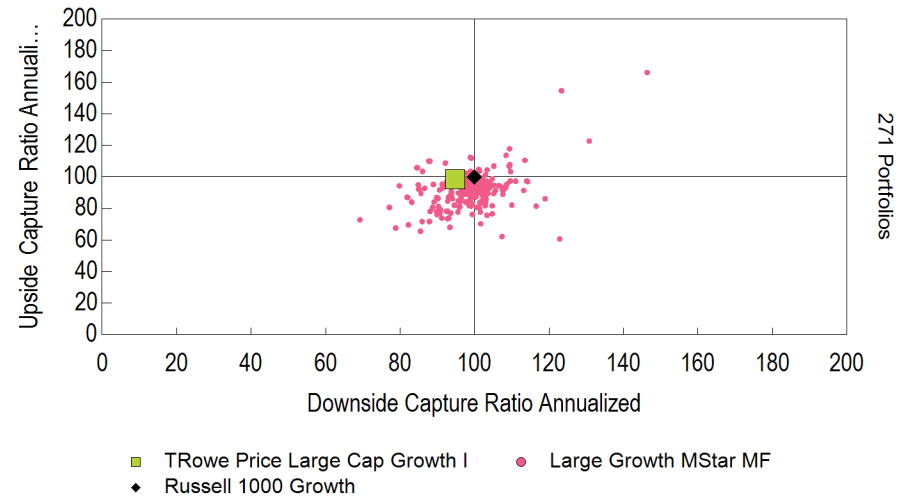


### TRowe Price Large Cap Growth I | As of December 31, 2021

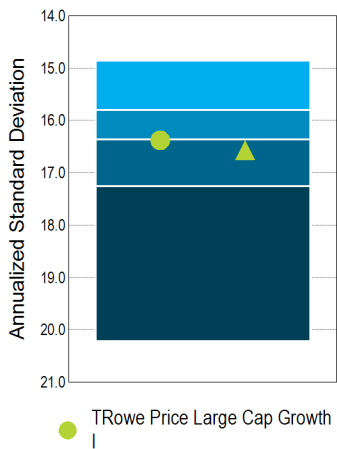
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



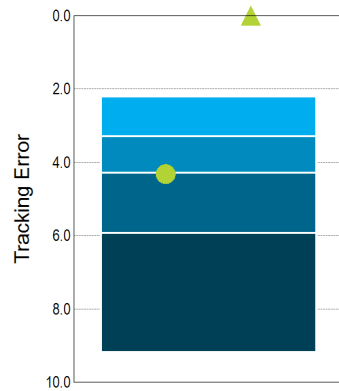
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



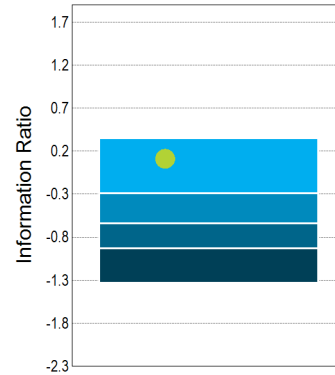
Annualized Standard Deviation



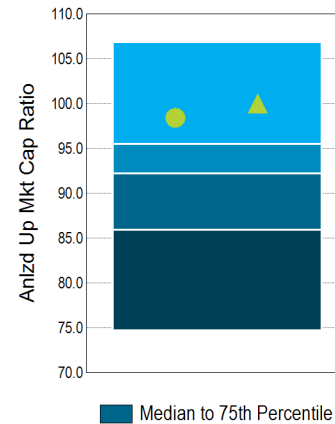
Tracking Error



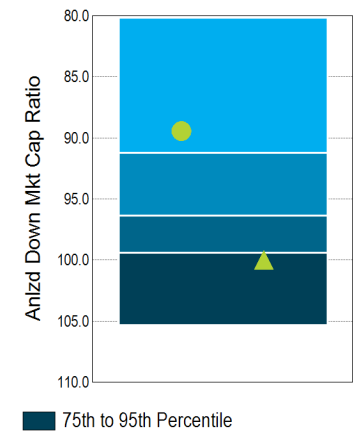
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



### TRowe Price Large Cap Growth I | As of December 31, 2021

#### Fund Characteristics as of December 31, 2021

Sharpe Ratio (3 Year)	1.62
Average Market Cap (\$mm)	327,818.09
Price/Earnings	31.06
Price/Book	6.80
Price/Sales	3.78
Price/Cash Flow	20.76
Dividend Yield	0.95
Number of Equity Holdings	67
R-Squared (3 Year)	0.96
Alpha (3 Year)	-0.16%

#### Sector Allocation as of December 31, 2021

BASIC MATERIALS	0.97%
COMMUNICATION SERVICES	22.63%
CONSUMER CYCLICAL	20.00%
CONSUMER DEFENSIVE	1.15%
ENERGY	0.00%
FINANCIAL SERVICES	4.79%
HEALTHCARE	11.91%
INDUSTRIALS	2.38%
REAL ESTATE	0.01%
TECHNOLOGY	36.16%
UTILITIES	0.00%

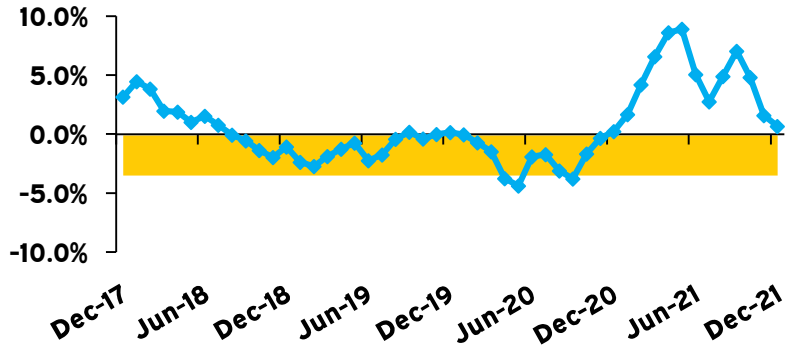
#### Top Holdings as of December 31, 2021

MICROSOFT CORP	10.38%
AMAZON.COM INC	7.82%
ALPHABET INC CLASS A	7.59%
RIVIAN AUTOMOTIVE INC CLASS A	5.51%
APPLE INC	5.43%
META PLATFORMS INC CLASS A	5.24%
INTUIT INC	3.50%
ALPHABET INC CLASS C	2.92%
UNITEDHEALTH GROUP INC	2.52%
SALESFORCE.COM INC	1.97%

#### Top Countries as of December 31, 2021

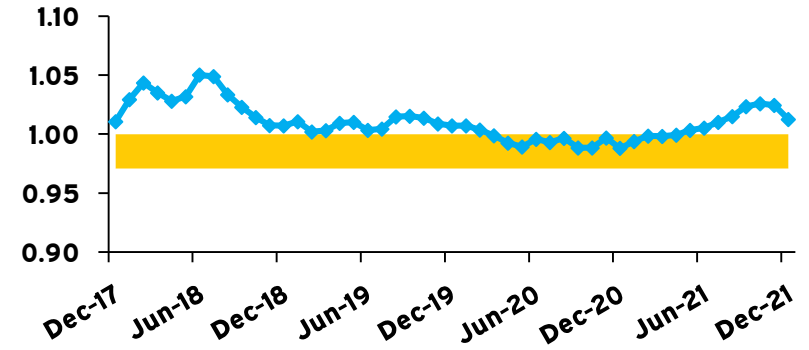
United States	97.35%
Netherlands	1.70%
South Korea	0.39%
Canada	0.30%
United Kingdom	0.26%

#### Short Term – Rolling 12-Month Excess Return



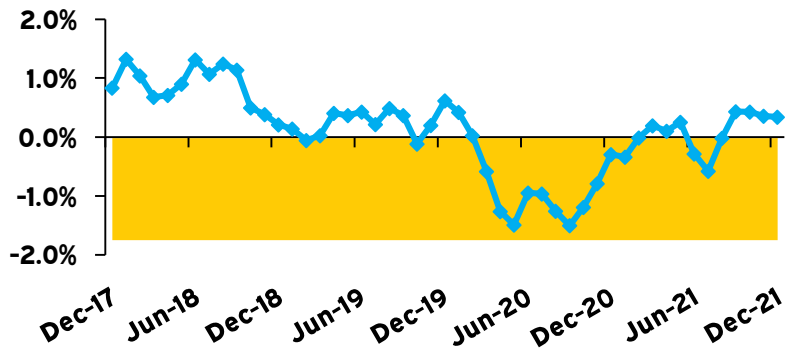
Results fall in the positive range.  
Probationary Threshold -3.50%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -1.75%

Benchmark: Russell 1000 Value

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Large Cap Value I	6.9	25.8	18.0	11.7	13.3	11/20/2011
Russell 1000 Value	7.8	25.2	17.6	11.2	12.9	

#### Monitoring Status

Positive



### TRowe Price Large Cap Value I | As of December 31, 2021

#### Description:

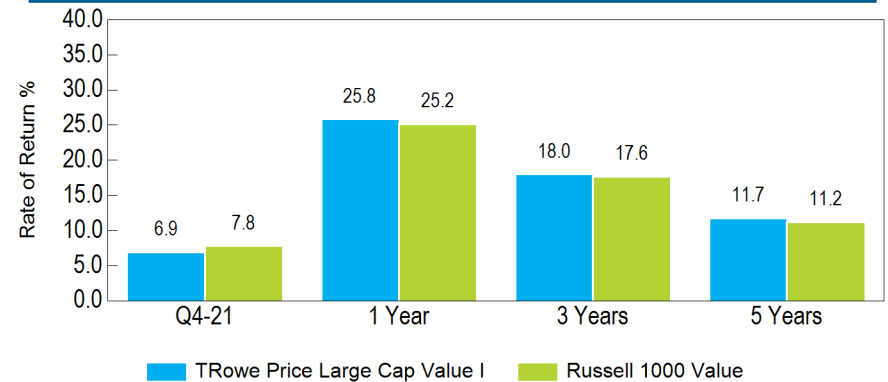
The investment seeks long-term capital appreciation; income is a secondary objective.

The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in securities of large-cap companies that the portfolio manager regards as undervalued. The manager defines a large-cap company as having a market capitalization that, at the time of purchase, is either (i) larger than the current median market capitalization of companies in the Russell 1000® Value Index or (ii) larger than the three year average median market capitalization of companies in the index as of December 31 of the three preceding years.

#### Portfolio Fund Information as of December 31, 2021

<b>Ticker</b>	TILCX
<b>Morningstar Category</b>	Large Value
<b>Average Market Cap (\$mm)</b>	89,348.70
<b>Net Assets (\$mm)</b>	3,855.93
<b>% Assets in Top 10 Holdings</b>	27.26
<b>Total Number of Holdings</b>	82
<b>Manager Name</b>	John D. Linehan
<b>Manager Tenure</b>	22
<b>Expense Ratio</b>	0.57%
<b>Closed to New Investors</b>	No

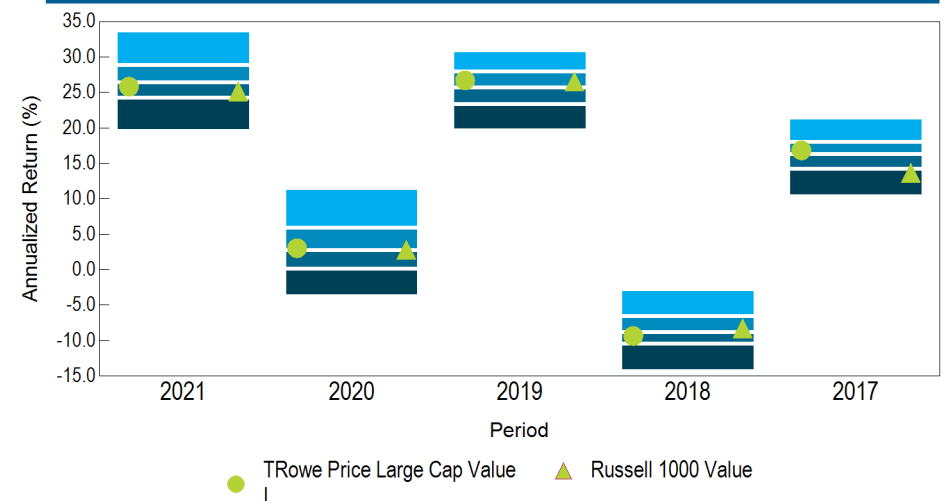
#### Return Summary



#### Large Value MStar MF Return Comparison

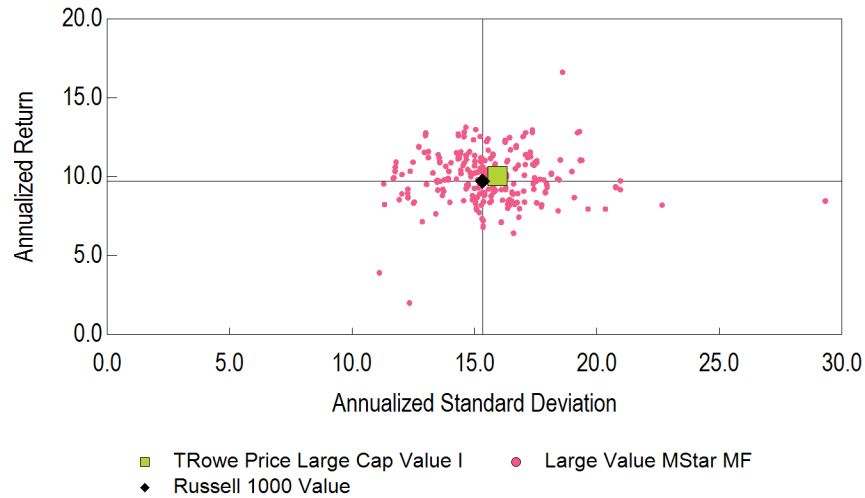


#### Large Value MStar MF Return Comparison

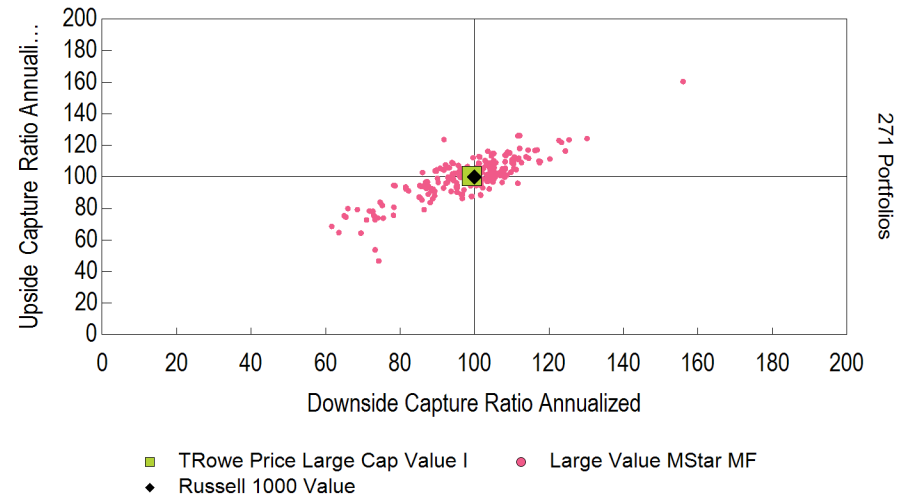


### TRowe Price Large Cap Value I | As of December 31, 2021

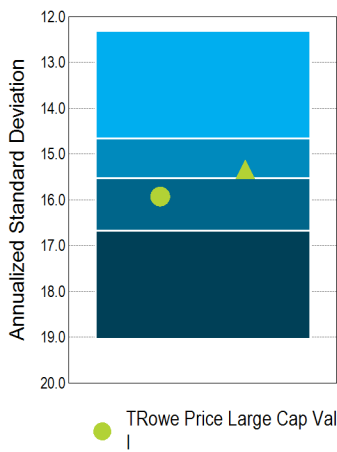
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



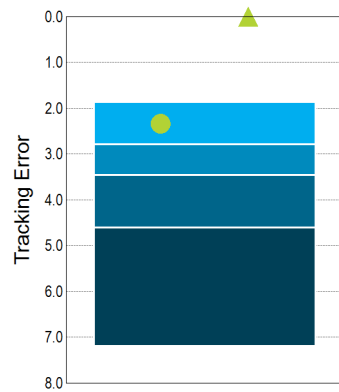
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



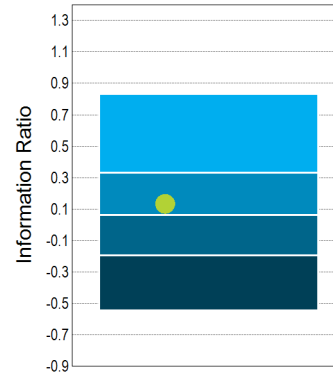
Annualized Standard Deviation



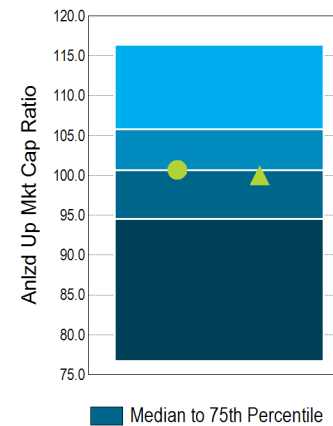
Tracking Error



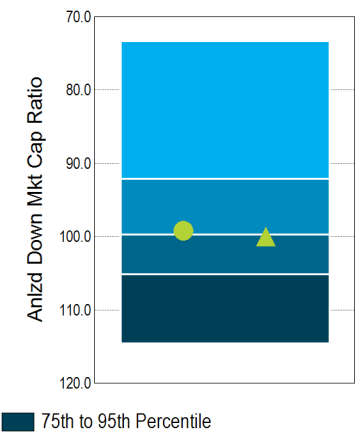
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



#### Fund Characteristics as of December 31, 2021

Sharpe Ratio (3 Year)	0.86
Average Market Cap (\$mm)	89,348.70
Price/Earnings	15.03
Price/Book	2.16
Price/Sales	1.78
Price/Cash Flow	11.16
Dividend Yield	2.50
Number of Equity Holdings	80
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.00%

#### Sector Allocation as of December 31, 2021

BASIC MATERIALS	2.47%
COMMUNICATION SERVICES	4.71%
CONSUMER CYCLICAL	5.38%
CONSUMER DEFENSIVE	7.28%
ENERGY	5.59%
FINANCIAL SERVICES	22.68%
HEALTHCARE	16.62%
INDUSTRIALS	11.94%
REAL ESTATE	3.79%
TECHNOLOGY	12.19%
UTILITIES	7.36%

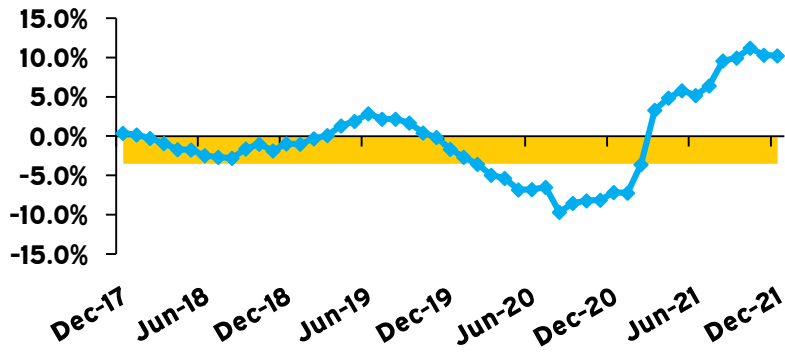
#### Top Holdings as of December 31, 2021

WELLS FARGO & CO	3.57%
GENERAL ELECTRIC CO	3.18%
AMERICAN INTERNATIONAL GROUP INC	2.85%
UNITED PARCEL SERVICE INC CLASS B	2.84%
MICROSOFT CORP	2.70%
T. ROWE PRICE GOV. RESERVE	2.65%
SOUTHERN CO	2.49%
TOTALENERGIES SE ADR	2.41%
CHUBB LTD	2.31%
QUALCOMM INC	2.28%

#### Top Countries as of December 31, 2021

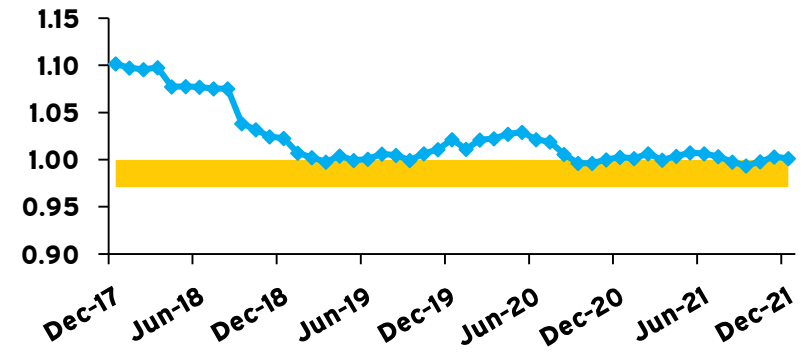
United States	92.06%
France	2.45%
Switzerland	2.35%
Canada	1.50%
Germany	1.00%
China	0.64%

#### Short Term – Rolling 12-Month Excess Return



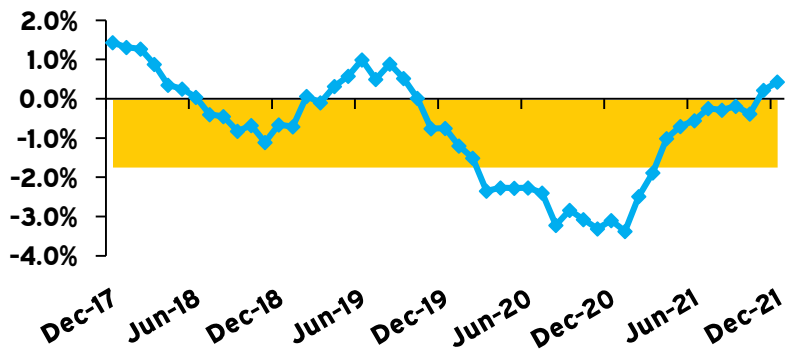
Results fall in the positive range.  
Probationary Threshold -3.50%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -1.75%

Benchmark: Russell 2000

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Quant Small Cap Equity I	4.8	25.1	20.4	12.1	13.5	11/20/2011
Russell 2000	2.1	14.8	20.0	12.0	13.0	

#### Monitoring Status

Positive

### TIAA-CREF Quant Small Cap Equity I | As of December 31, 2021

#### Description:

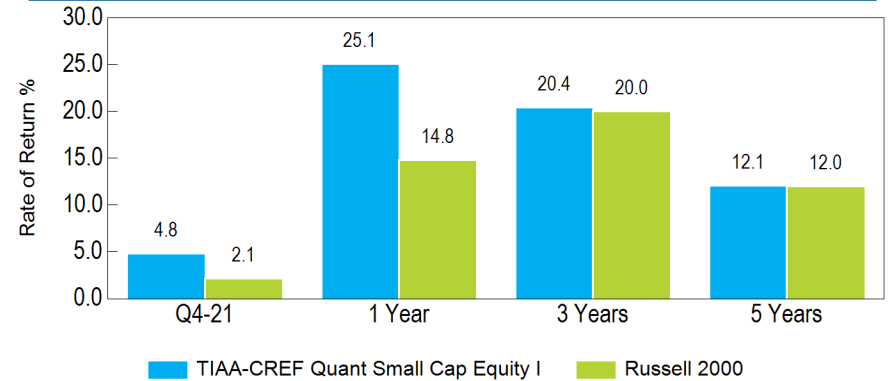
The investment seeks a favorable long-term total return, mainly through capital appreciation, primarily from equity securities of smaller domestic companies.

Under normal circumstances, the fund invests at least 80% of its assets in small-cap equity securities. A small-cap equity security is a security within the capitalization range of the companies included in the fund's benchmark index, the Russell 2000® Index, at the time of purchase. It invests primarily in equity securities of smaller domestic companies across a wide range of sectors, growth rates and valuations.

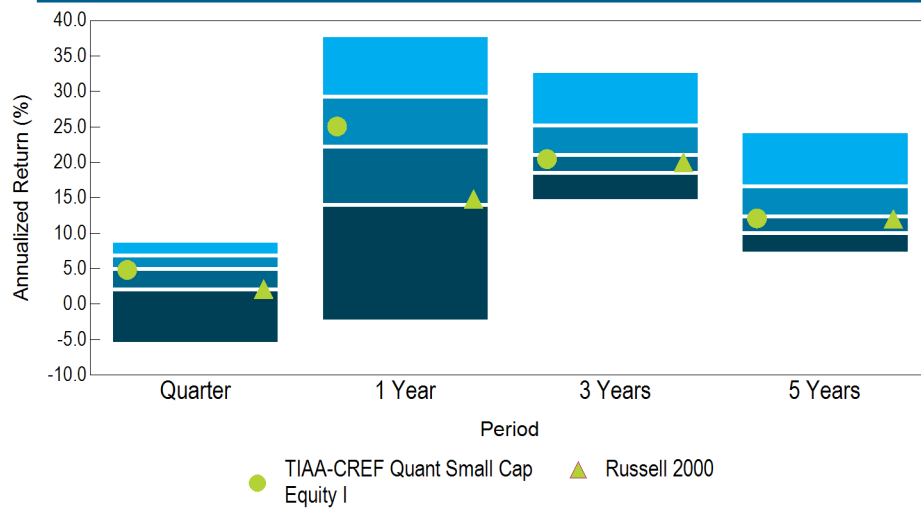
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TISEX
<b>Morningstar Category</b>	Small Blend
<b>Average Market Cap (\$mm)</b>	2,814.43
<b>Net Assets (\$mm)</b>	1,511.16
<b>% Assets in Top 10 Holdings</b>	7.33
<b>Total Number of Holdings</b>	441
<b>Manager Name</b>	Pei Chen
<b>Manager Tenure</b>	6
<b>Expense Ratio</b>	0.43%
<b>Closed to New Investors</b>	No

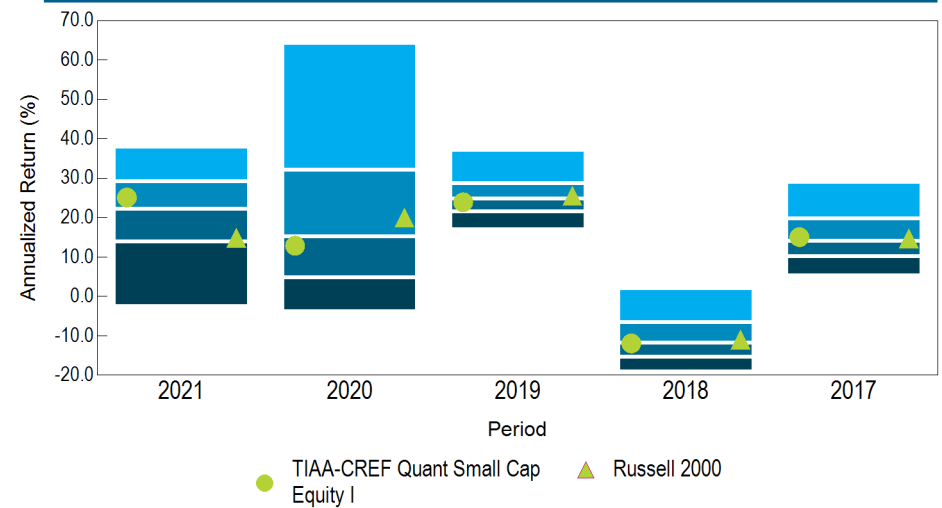
#### Return Summary



#### Small Cap MStar MF Return Comparison

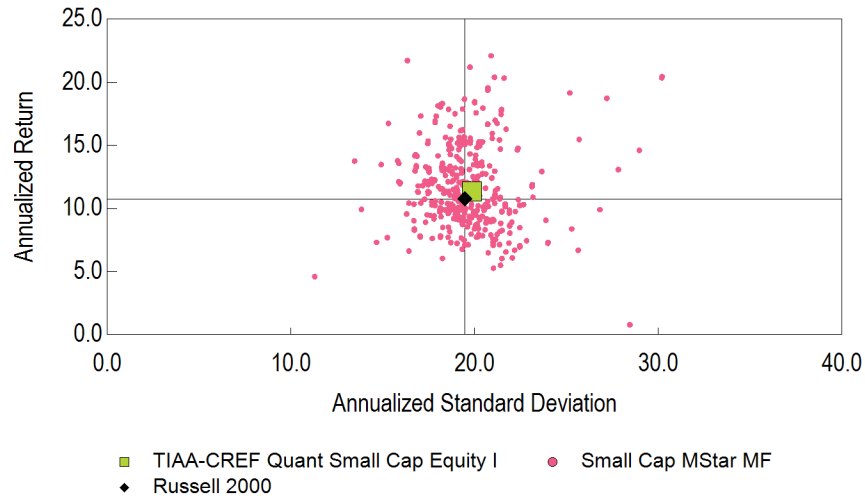


#### Small Cap MStar MF Return Comparison

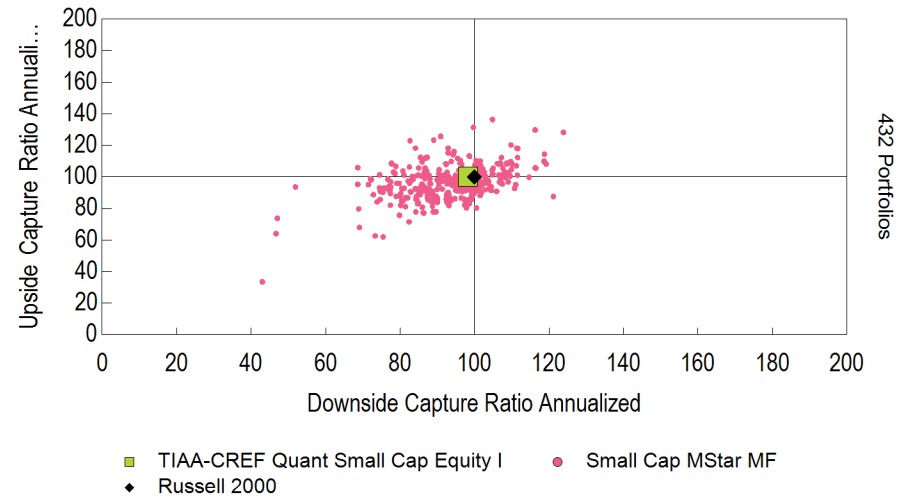


### TIAA-CREF Quant Small Cap Equity I | As of December 31, 2021

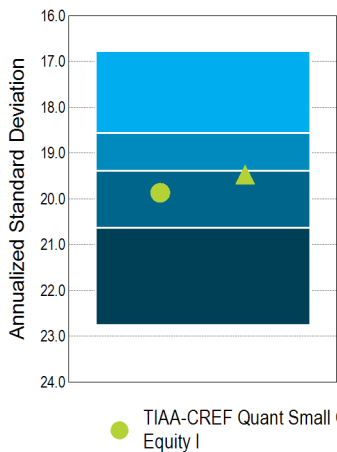
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



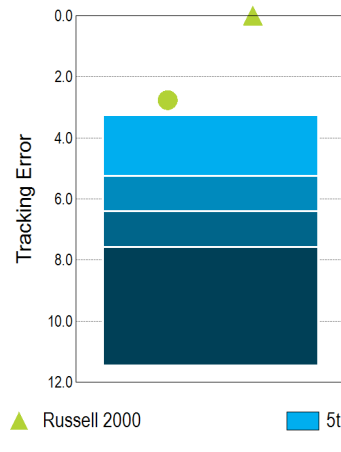
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



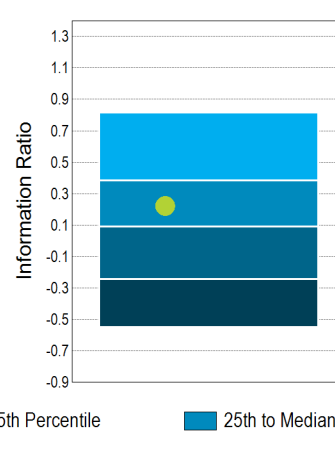
Annualized Standard Deviation



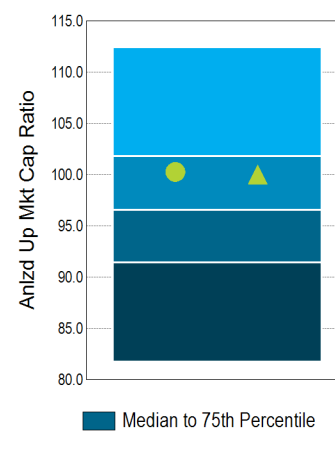
Tracking Error



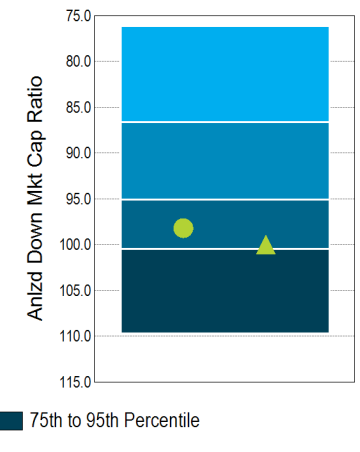
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



### TIAA-CREF Quant Small Cap Equity I | As of December 31, 2021

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	0.52
Average Market Cap (\$mm)	2,814.43
Price/Earnings	14.38
Price/Book	2.08
Price/Sales	1.17
Price/Cash Flow	6.68
Dividend Yield	0.96
Number of Equity Holdings	436
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.00%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	4.08%
COMMUNICATION SERVICES	4.39%
CONSUMER CYCLICAL	9.71%
CONSUMER DEFENSIVE	4.38%
ENERGY	5.22%
FINANCIAL SERVICES	14.39%
HEALTHCARE	17.53%
INDUSTRIALS	15.18%
REAL ESTATE	7.96%
TECHNOLOGY	14.00%
UTILITIES	3.17%

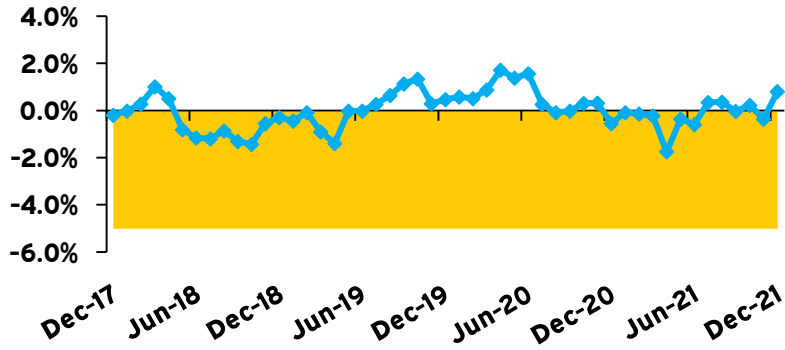
#### Top Holdings as of November 30, 2021

BJ'S WHOLESALE CLUB HOLDINGS INC	1.03%
LATTICE SEMICONDUCTOR CORP	0.77%
CROCS INC	0.76%
E-MINI RUSS 2000 DEC21 XCME 20211217	0.75%
COMFORT SYSTEMS USA INC	0.72%
NATIONAL STORAGE AFFILIATES TRUST	0.72%
PS BUSINESS PARKS INC	0.69%
OVINTIV INC	0.64%
TRINET GROUP INC	0.63%
UNITED COMMUNITY BANKS INC	0.63%

#### Top Countries as of November 30, 2021

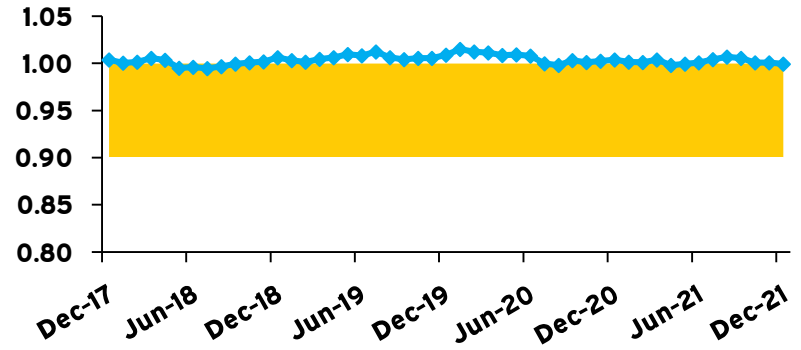
United States	98.84%
Puerto Rico	0.35%
Brazil	0.27%
Chile	0.26%
Israel	0.15%
Germany	0.12%

#### Short Term – Rolling 12-Month Excess Return



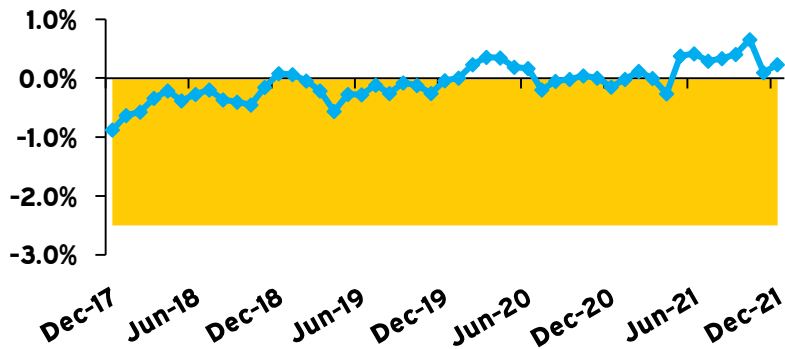
Results fall in the positive range.  
Probationary Threshold -5.00%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.90

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -2.50%

Benchmark: Russell 3000

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Social Choice Equity I	9.5	26.5	26.0	18.0	15.5	11/20/2011
Russell 3000	9.3	25.7	25.8	18.0	16.1	

#### Monitoring Status

Positive



### TIAA-CREF Social Choice Equity I | As of December 31, 2021

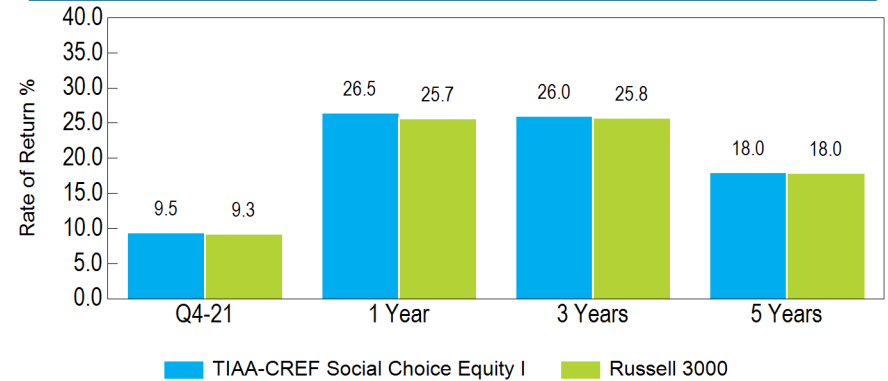
#### Description:

The investment seeks a favorable long-term total return that reflects the investment performance of the overall U.S. stock market while giving special consideration to certain ESG criteria. Under normal circumstances, the fund invests at least 80% of its assets in equity securities. The Advisor attempts to achieve the return of the U.S. stock market as represented by its benchmark, the Russell 3000® Index, while investing in companies whose activities are consistent with the fund's ESG criteria.

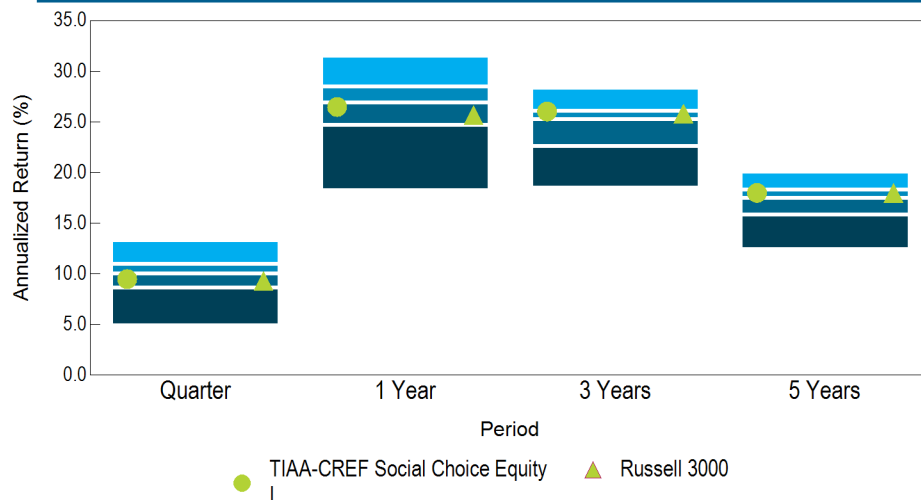
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TISCX
<b>Morningstar Category</b>	Large Blend
<b>Average Market Cap (\$mm)</b>	87,767.70
<b>Net Assets (\$mm)</b>	5,626.28
<b>% Assets in Top 10 Holdings</b>	18.33
<b>Total Number of Holdings</b>	581
<b>Manager Name</b>	Philip James(Jim) Campagna
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.18%
<b>Closed to New Investors</b>	No

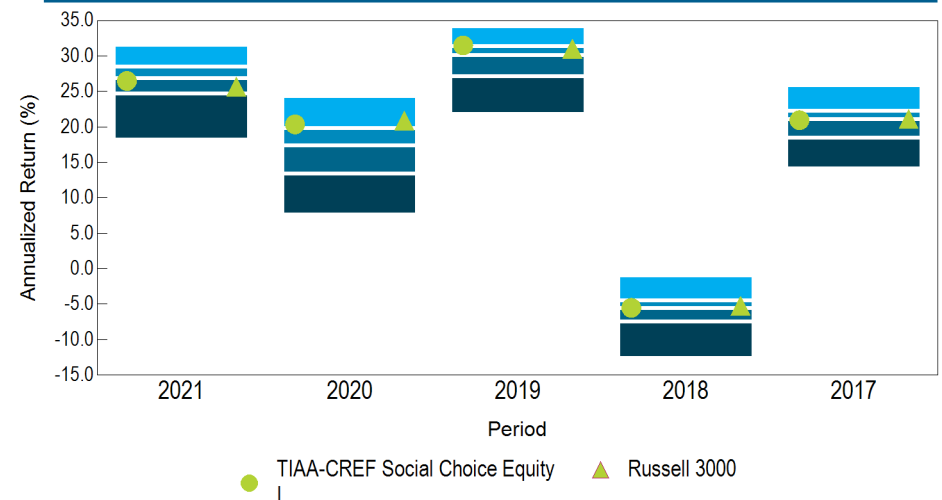
#### Return Summary



#### Large Blend MStar MF Return Comparison

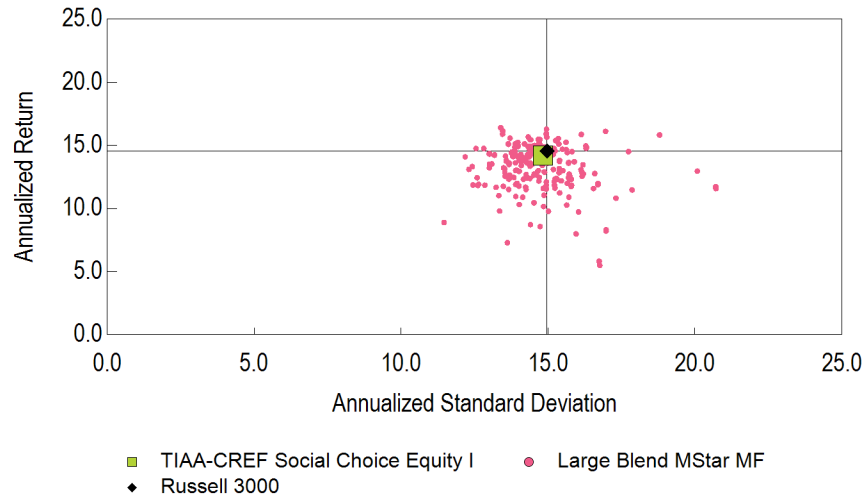


#### Large Blend MStar MF Return Comparison

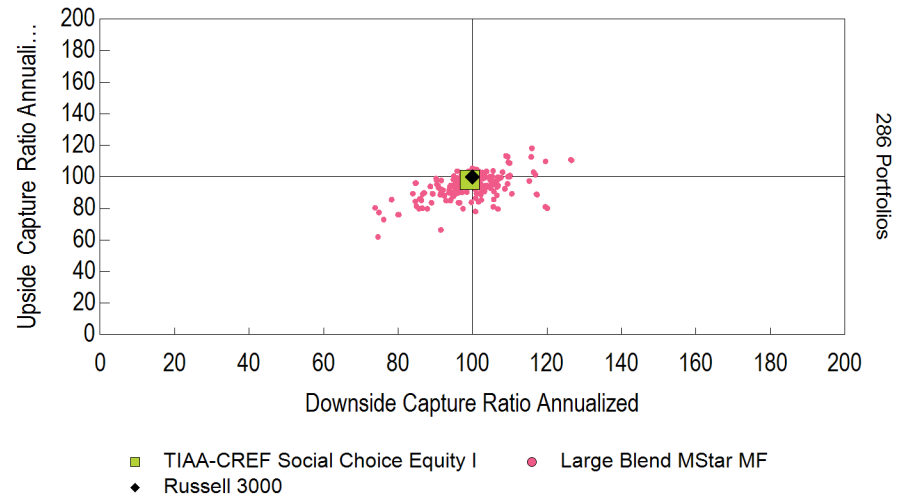


### TIAA-CREF Social Choice Equity I | As of December 31, 2021

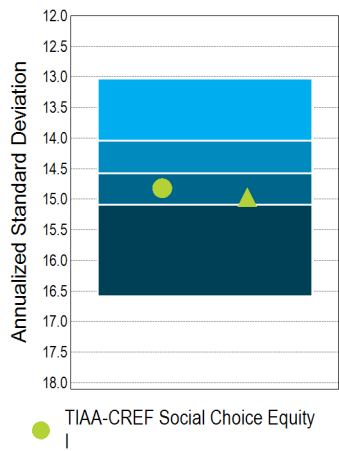
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



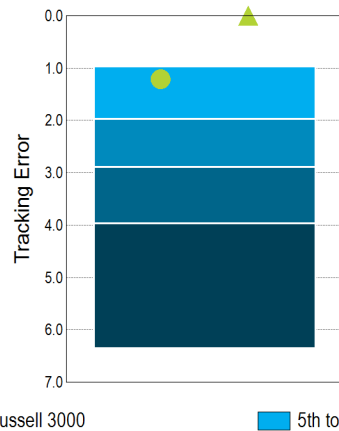
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



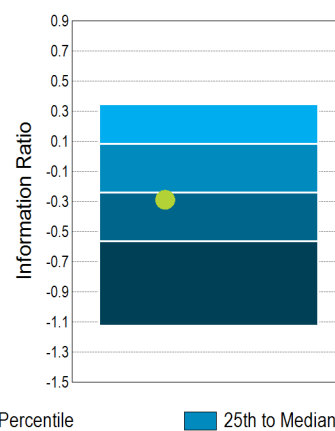
Annualized Standard Deviation



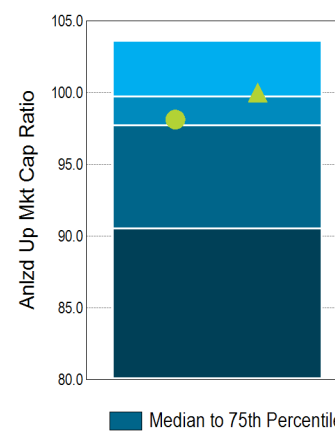
Tracking Error



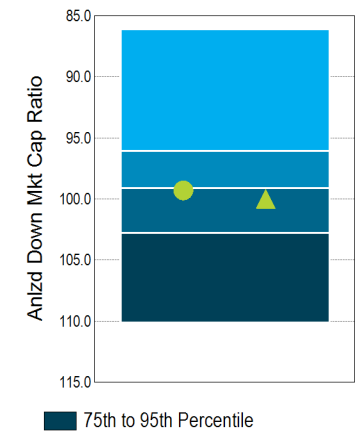
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



### TIAA-CREF Social Choice Equity I | As of December 31, 2021

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	1.03
Average Market Cap (\$mm)	87,767.70
Price/Earnings	20.64
Price/Book	3.61
Price/Sales	2.70
Price/Cash Flow	14.91
Dividend Yield	1.53
Number of Equity Holdings	572
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.04%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	1.89%
COMMUNICATION SERVICES	7.04%
CONSUMER CYCLICAL	10.85%
CONSUMER DEFENSIVE	6.27%
ENERGY	2.65%
FINANCIAL SERVICES	15.27%
HEALTHCARE	13.48%
INDUSTRIALS	10.24%
REAL ESTATE	3.12%
TECHNOLOGY	26.69%
UTILITIES	2.50%

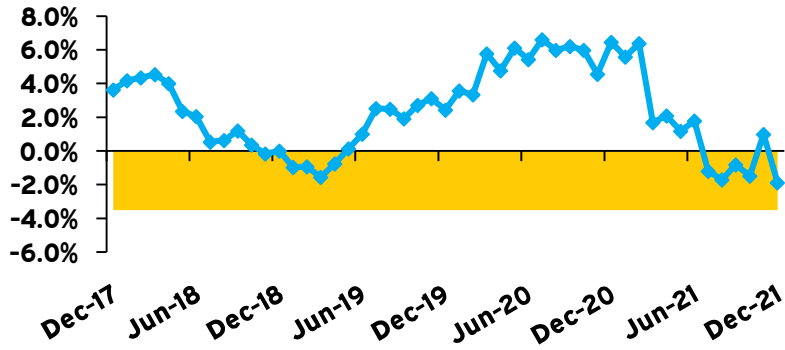
#### Top Holdings as of November 30, 2021

MICROSOFT CORP	5.78%
TESLA INC	2.43%
NVIDIA CORP	2.15%
THE HOME DEPOT INC	1.39%
PROCTER & GAMBLE CO	1.23%
ADOBE INC	1.16%
MASTERCARD INC CLASS A	1.07%
NETFLIX INC	1.06%
THE WALT DISNEY CO	1.04%
SALESFORCE.COM INC	1.03%

#### Top Countries as of November 30, 2021

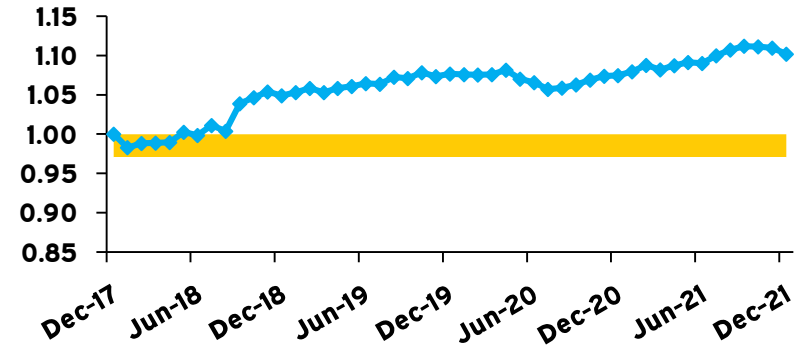
United States	98.79%
China	0.61%
Switzerland	0.48%
Ireland	0.04%
United Kingdom	0.04%
Canada	0.02%
Puerto Rico	0.01%

#### Short Term – Rolling 12-Month Excess Return



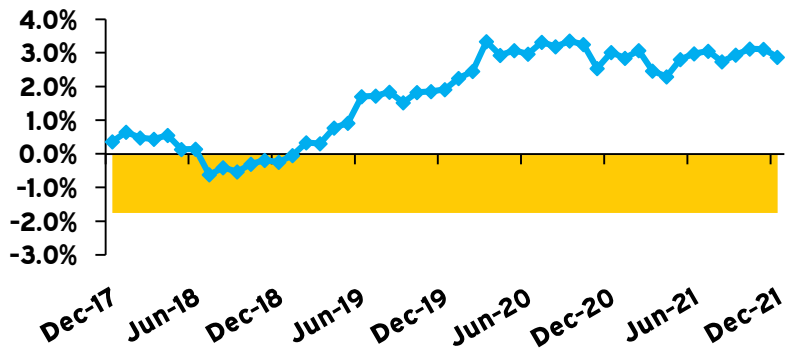
Results fall in the positive range.  
Probationary Threshold -3.50%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -1.75%

Benchmark: FTSE NAREIT All Equity REIT

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Real Estate Securities I	15.6	39.4	22.8	14.8	12.9	11/20/2011
FTSE NAREIT All Equity REIT	16.2	41.3	19.9	12.5	12.1	

#### Monitoring Status

Positive

### TIAA-CREF Real Estate Securities I | As of December 31, 2021

#### Description:

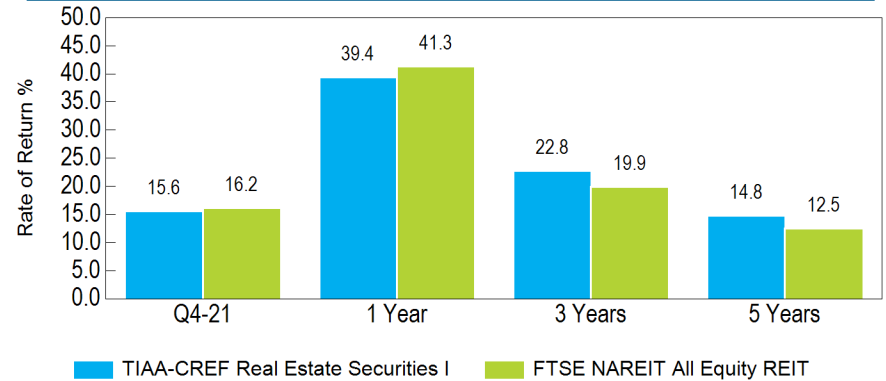
The investment seeks to obtain a favorable long-term total return through both capital appreciation and current income, by investing primarily in equity securities of companies principally engaged in or related to the real estate industry.

The fund invests at least 80% of its assets in the securities of companies that are principally engaged in or related to the real estate industry, including those that own significant real estate assets. It may invest up to 15% of its assets in real estate securities of foreign issuers and up to 20% of its assets in equity and debt securities of issuers that are not engaged in or related to the real estate industry.

#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TIREX
<b>Morningstar Category</b>	Real Estate
<b>Average Market Cap (\$mm)</b>	24,637.35
<b>Net Assets (\$mm)</b>	3,150.29
<b>% Assets in Top 10 Holdings</b>	44.16
<b>Total Number of Holdings</b>	68
<b>Manager Name</b>	David Copp
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.49%
<b>Closed to New Investors</b>	No

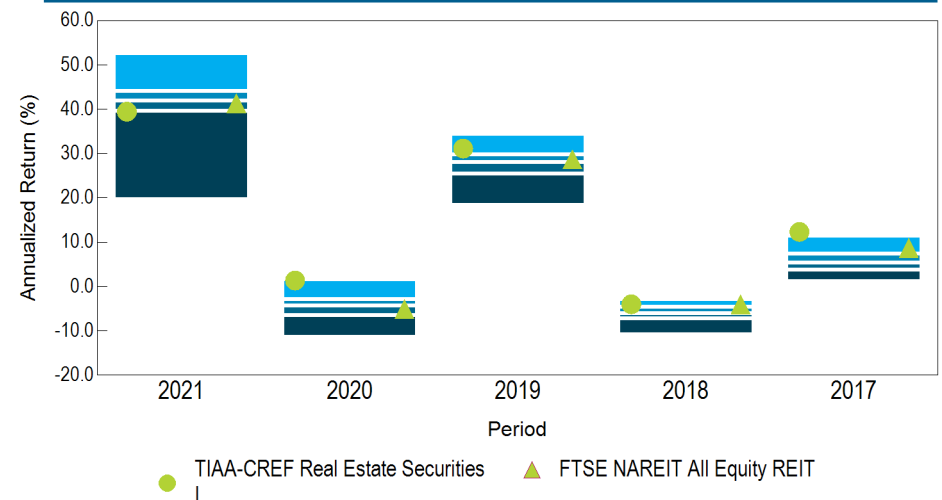
#### Return Summary



#### Real Estate MStar MF Return Comparison

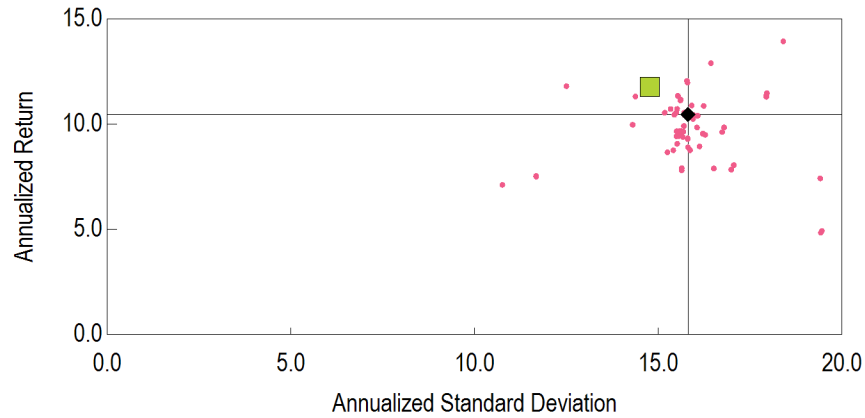


#### Real Estate MStar MF Return Comparison



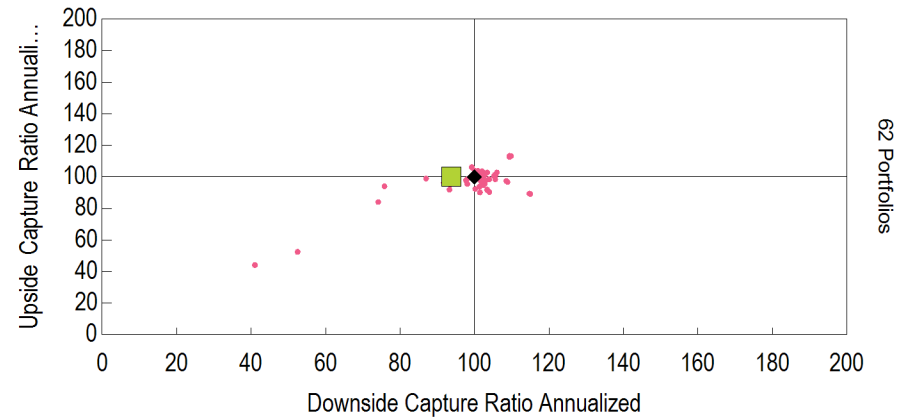
### TIAA-CREF Real Estate Securities I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



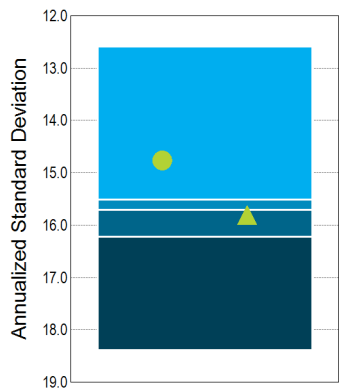
- TIAA-CREF Real Estate Securities I
- Real Estate MStar MF
- FTSE NAREIT All Equity REIT

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



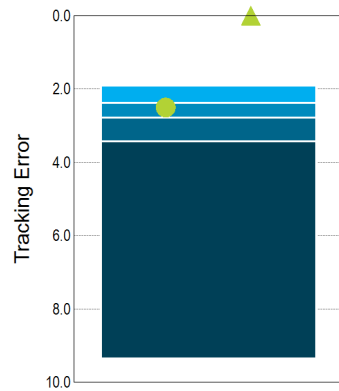
- TIAA-CREF Real Estate Securities I
- Real Estate MStar MF
- FTSE NAREIT All Equity REIT

Annualized Standard Deviation



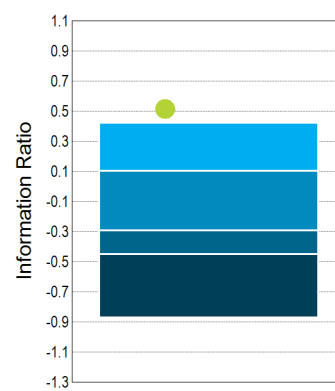
- TIAA-CREF Real Estate Securities

Tracking Error



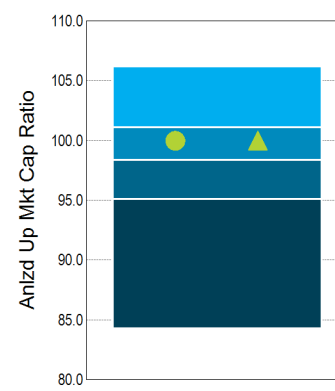
- FTSE NAREIT All Equity REIT

Information Ratio



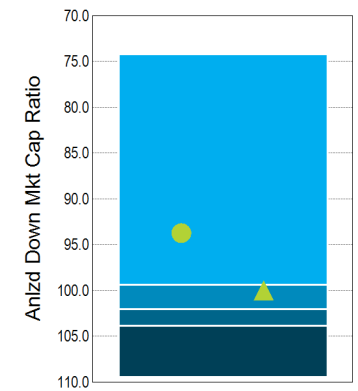
- 5th to 25th Percentile

Anlzd Up Mkt Cap Ratio



- 25th to Median

Anlzd Down Mkt Cap Ratio



- Median to 75th Percentile

### TIAA-CREF Real Estate Securities I | As of December 31, 2021

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	0.90
Average Market Cap (\$mm)	24,637.35
Price/Earnings	46.45
Price/Book	2.98
Price/Sales	9.51
Price/Cash Flow	20.84
Dividend Yield	2.56
Number of Equity Holdings	64
R-Squared (3 Year)	0.98
Alpha (3 Year)	0.32%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	0.00%
COMMUNICATION SERVICES	0.00%
CONSUMER CYCLICAL	0.45%
CONSUMER DEFENSIVE	0.00%
ENERGY	0.00%
FINANCIAL SERVICES	0.00%
HEALTHCARE	0.00%
INDUSTRIALS	0.00%
REAL ESTATE	97.63%
TECHNOLOGY	1.92%
UTILITIES	0.00%

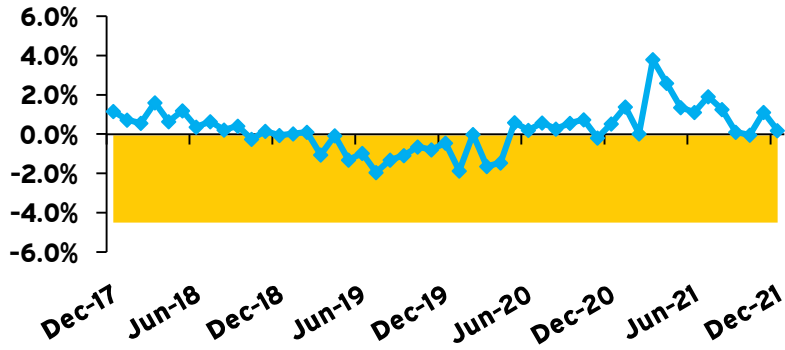
#### Top Holdings as of November 30, 2021

PROLOGIS INC	6.84%
SIMON PROPERTY GROUP INC	6.14%
AMERICAN TOWER CORP	5.80%
EQUINIX INC	4.53%
AVALONBAY COMMUNITIES INC	4.16%
EQUITY RESIDENTIAL	4.00%
SUN COMMUNITIES INC	3.36%
REXFORD INDUSTRIAL REALTY INC	3.27%
INVITATION HOMES INC	3.16%
PUBLIC STORAGE	2.92%

#### Top Countries as of November 30, 2021

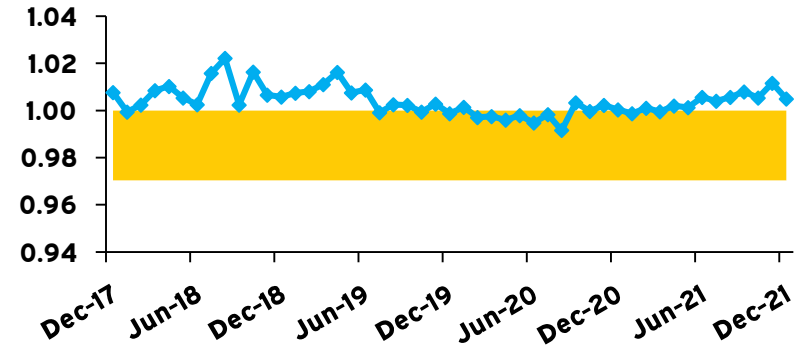
United States	96.65%
China	1.39%
Australia	1.18%
Canada	0.78%

#### Short Term – Rolling 12-Month Excess Return



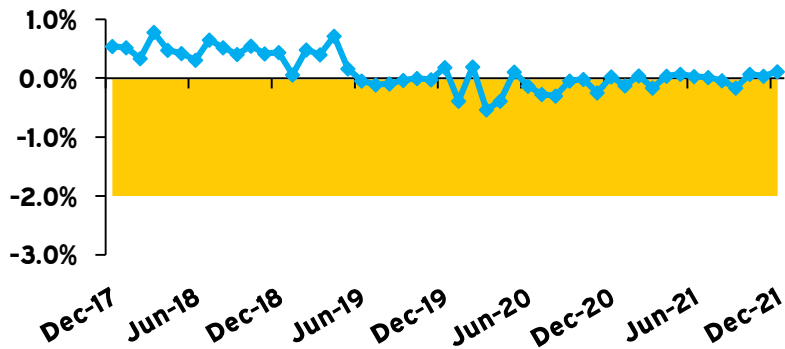
Results fall in the positive range.  
Probationary Threshold -4.50%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -2.00%

Benchmark: MSCI World ex USA

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
DFA Large Cap International I	3.3	12.8	14.2	9.9	7.4	11/20/2011
MSCI World ex USA	3.1	12.6	14.1	9.6	7.1	

#### Monitoring Status

Positive



### DFA Large Cap International I | As of December 31, 2021

#### Description:

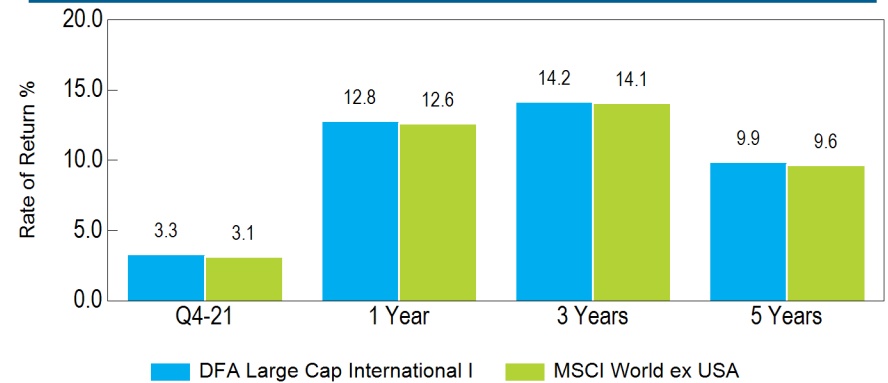
The investment seeks long-term capital appreciation.

The Portfolio will invest at least 80% of its net assets in securities of large cap companies in the particular markets in which the Portfolio invests. The Advisor determines the minimum market capitalization of a large company with respect to each country or region in which the Portfolio invests. It also may purchase or sell futures contracts and options on futures contracts for foreign or U.S. equity securities and indices, to increase or decrease equity market exposure based on actual or expected cash inflows to or outflows from the Portfolio.

#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	DFALX
<b>Morningstar Category</b>	Foreign Large Blend
<b>Average Market Cap (\$mm)</b>	33,255.36
<b>Net Assets (\$mm)</b>	5,779.29
<b>% Assets in Top 10 Holdings</b>	10.12
<b>Total Number of Holdings</b>	1,360
<b>Manager Name</b>	Jed S. Fogdall
<b>Manager Tenure</b>	12
<b>Expense Ratio</b>	0.18%
<b>Closed to New Investors</b>	No

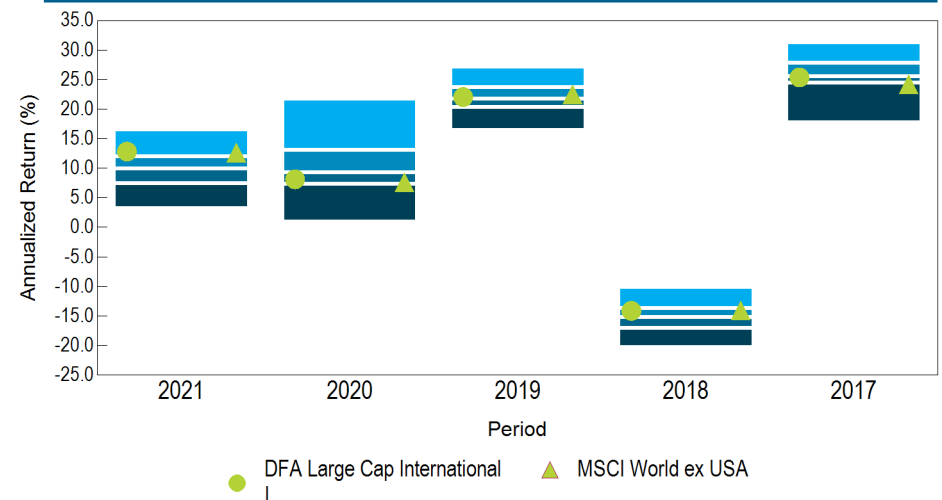
#### Return Summary



#### Foreign Large Blend MStar MF Return Comparison

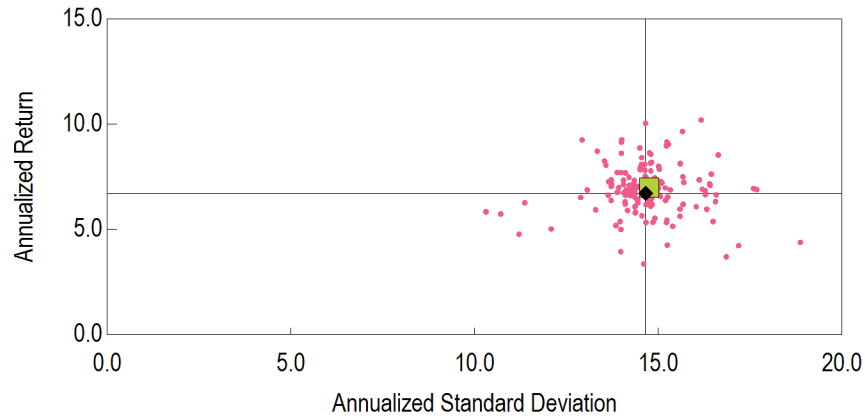


#### Foreign Large Blend MStar MF Return Comparison



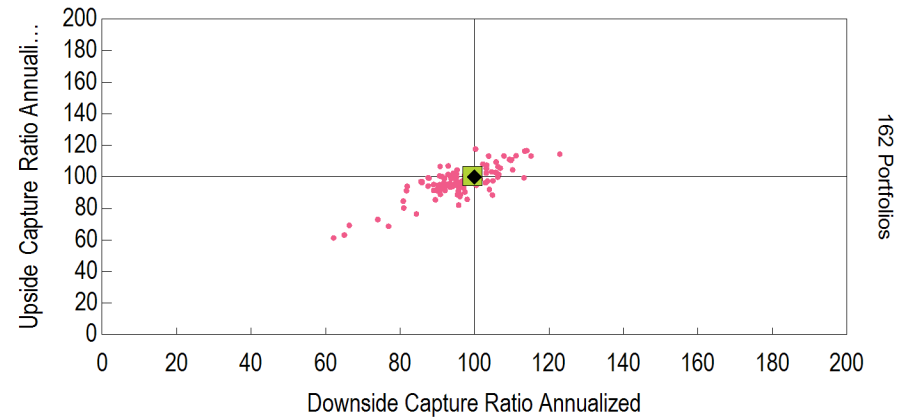
### DFA Large Cap International I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



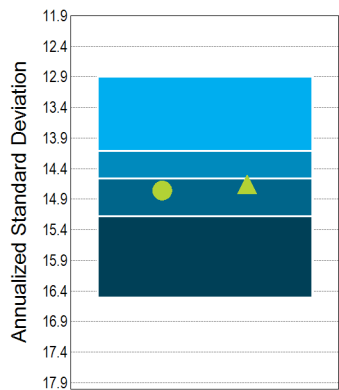
- DFA Large Cap International I
- Foreign Large Blend MStar MF
- ◆ MSCI World ex USA

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021

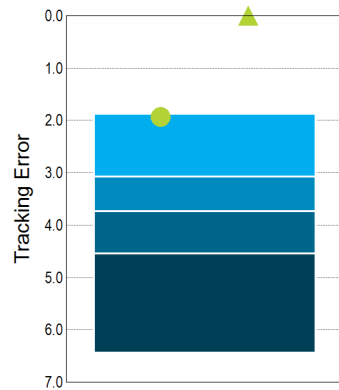


- DFA Large Cap International I
- Foreign Large Blend MStar MF
- ◆ MSCI World ex USA

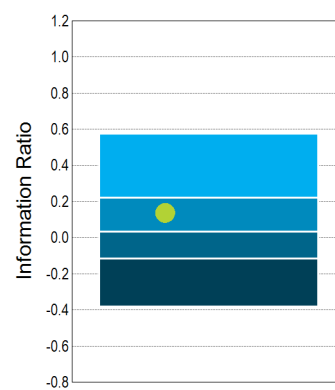
Annualized Standard Deviation



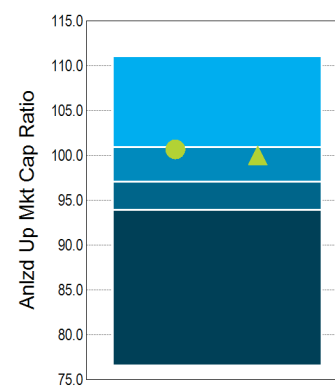
Tracking Error



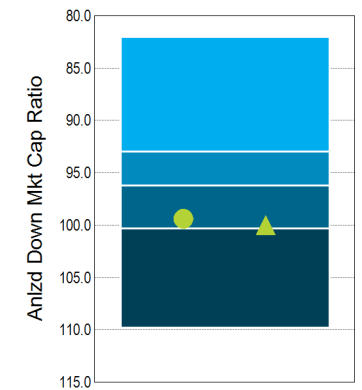
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- DFA Large Cap International I
- ▲ MSCI World ex USA
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	0.51
Average Market Cap (\$mm)	33,255.36
Price/Earnings	13.44
Price/Book	1.60
Price/Sales	1.16
Price/Cash Flow	6.34
Dividend Yield	2.94
Number of Equity Holdings	1,343
R-Squared (3 Year)	0.99
Alpha (3 Year)	-0.01%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	9.49%
COMMUNICATION SERVICES	6.10%
CONSUMER CYCLICAL	12.09%
CONSUMER DEFENSIVE	9.64%
ENERGY	4.64%
FINANCIAL SERVICES	15.98%
HEALTHCARE	11.12%
INDUSTRIALS	16.44%
REAL ESTATE	1.56%
TECHNOLOGY	9.57%
UTILITIES	3.37%

#### Top Holdings as of November 30, 2021

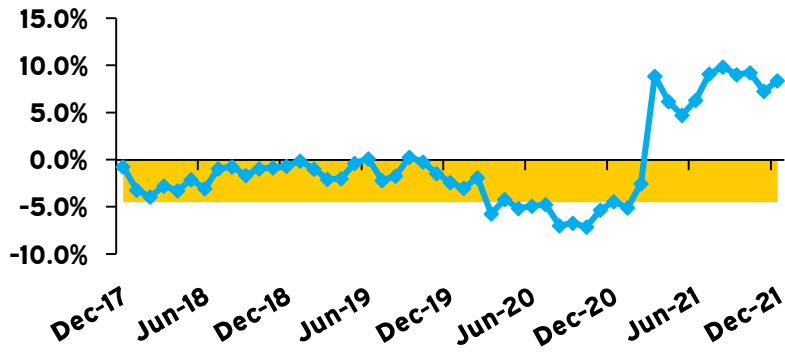
NESTLE SA	1.84%
ROCHE HOLDING AG	1.38%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.08%
ASML HOLDING NV ADR	1.02%
S+P500 EMINI FUT DEC21 XCME 20211217	0.90%
ROYAL BANK OF CANADA	0.88%
NOVO NORDISK A/S CLASS B	0.85%
SONY GROUP CORP	0.77%
TOYOTA MOTOR CORP	0.74%
ROYAL DUTCH SHELL PLC ADR CLASS B	0.67%

#### Top Countries as of November 30, 2021

Japan	22.24%
United Kingdom	12.13%
Canada	10.43%
France	9.19%
Switzerland	8.49%
Germany	7.55%
Australia	5.85%
Netherlands	4.78%
Sweden	3.48%
Denmark	2.41%

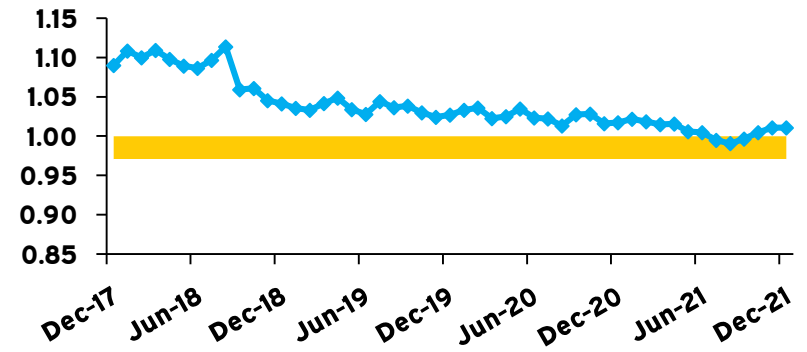
### DFA Emerging Markets Core Equity I | As of December 31, 2021

#### Short Term – Rolling 12-Month Excess Return



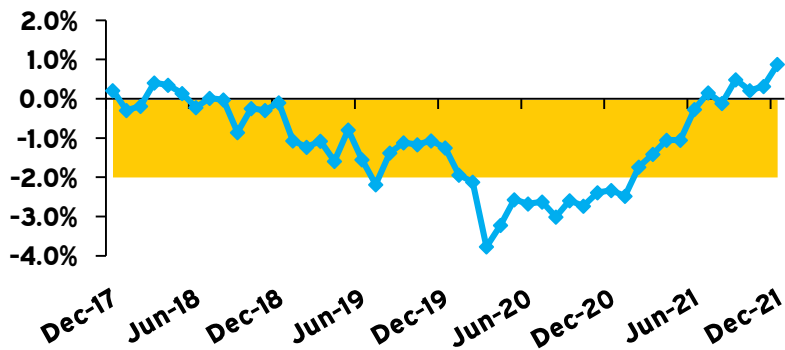
Results fall in the positive range.  
Probationary Threshold -4.50%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.97

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -2.00%

Benchmark: MSCI Emerging Markets

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
DFA Emerging Markets Core Equity I	0.9	5.8	11.8	10.1	5.2	11/20/2011
MSCI Emerging Markets	-1.3	-2.5	10.9	9.9	4.6	

#### Monitoring Status

Positive

### DFA Emerging Markets Core Equity I | As of December 31, 2021

#### Description:

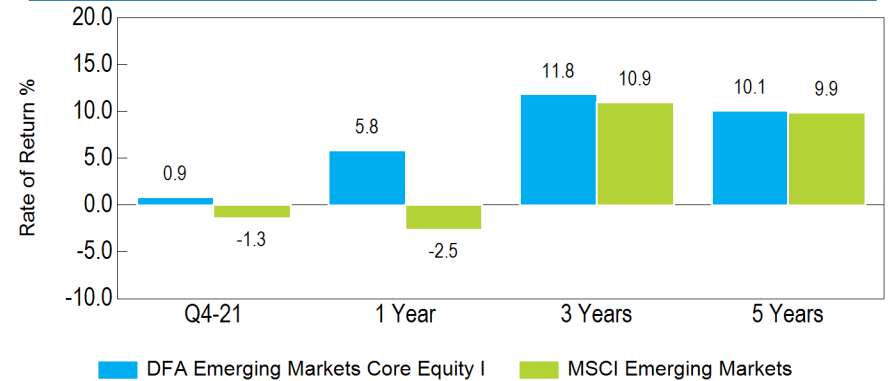
The investment seeks long-term capital appreciation.

The Portfolio purchases a broad and diverse group of securities associated with emerging markets, which may include frontier markets (emerging market countries in an earlier stage of development), authorized for investment by Dimensional Fund Advisors LP's (the "Advisor") Investment Committee ("Approved Markets"). It may gain exposure to companies in Approved Markets by purchasing equity securities in the form of depositary receipts, which may be listed or traded outside the issuer's domicile country.

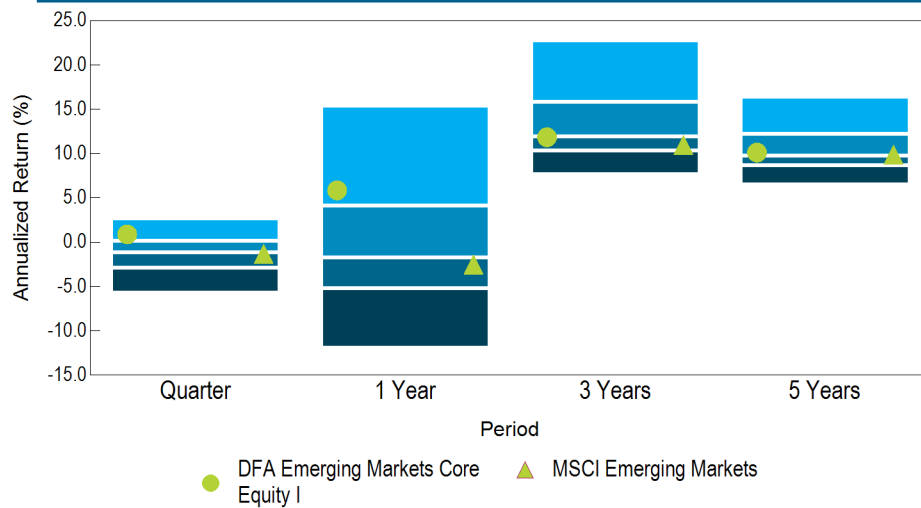
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	DFCEX
<b>Morningstar Category</b>	Diversified Emerging Mkts
<b>Average Market Cap (\$mm)</b>	14,563.13
<b>Net Assets (\$mm)</b>	28,090.04
<b>% Assets in Top 10 Holdings</b>	16.71
<b>Total Number of Holdings</b>	6,428
<b>Manager Name</b>	Jed S. Fogdall
<b>Manager Tenure</b>	12
<b>Expense Ratio</b>	0.39%
<b>Closed to New Investors</b>	No

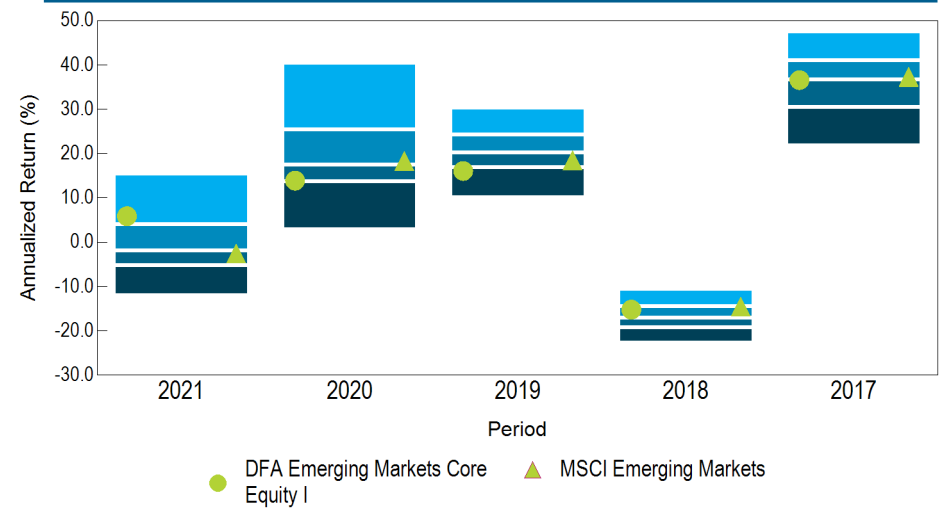
#### Return Summary



#### Diversified Emerging Mkts MStar MF Return Comparison

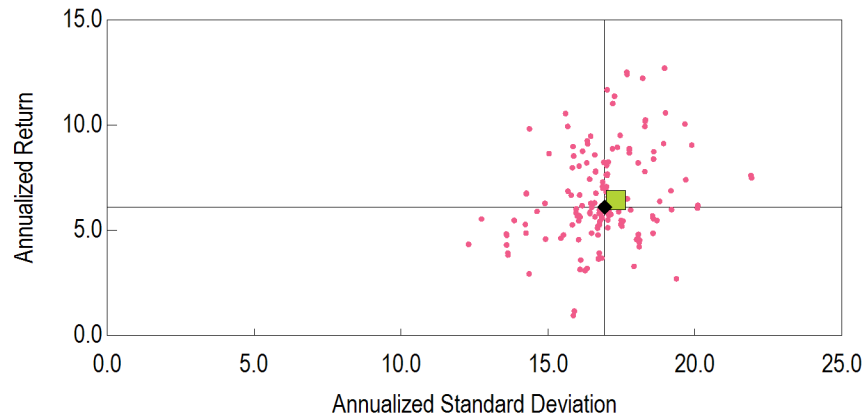


#### Diversified Emerging Mkts MStar MF Return Comparison

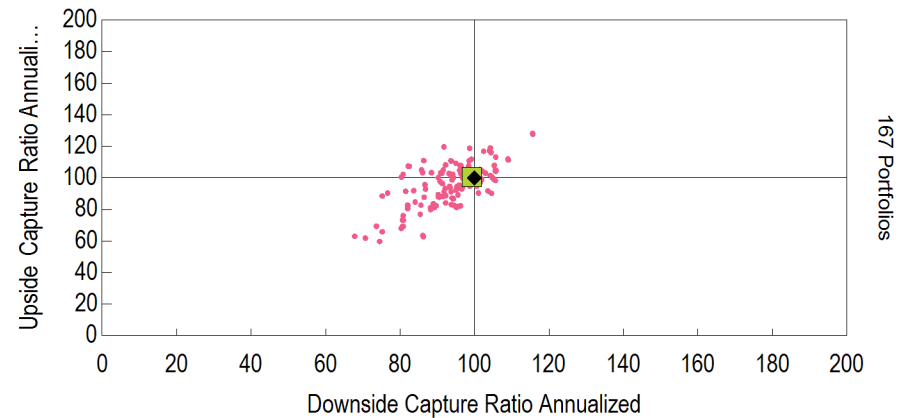


### DFA Emerging Markets Core Equity I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



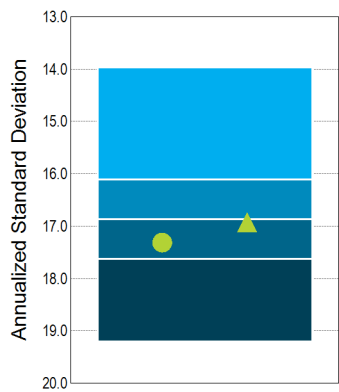
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



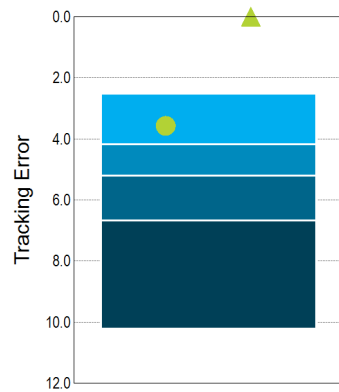
- DFA Emerging Markets Core Equity I
- Diversified Emerging Mkts MStar MF
- ◆ MSCI Emerging Markets

- DFA Emerging Markets Core Equity I
- Diversified Emerging Mkts MStar MF
- ◆ MSCI Emerging Markets

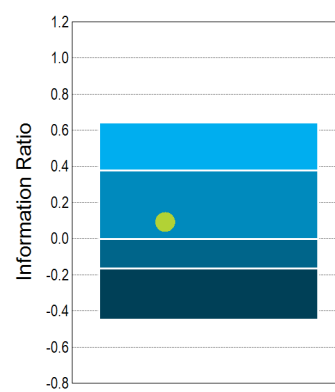
Annualized Standard Deviation



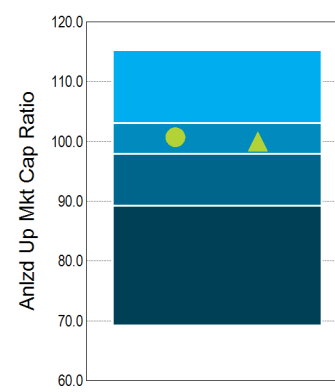
Tracking Error



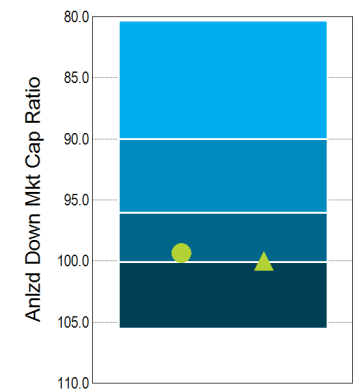
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- DFA Emerging Markets Core Equity I
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

### DFA Emerging Markets Core Equity I | As of December 31, 2021

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	0.44
Average Market Cap (\$mm)	14,563.13
Price/Earnings	9.99
Price/Book	1.36
Price/Sales	0.95
Price/Cash Flow	4.94
Dividend Yield	3.72
Number of Equity Holdings	6,362
R-Squared (3 Year)	0.95
Alpha (3 Year)	0.01%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	10.66%
COMMUNICATION SERVICES	8.54%
CONSUMER CYCLICAL	11.77%
CONSUMER DEFENSIVE	5.73%
ENERGY	4.91%
FINANCIAL SERVICES	16.09%
HEALTHCARE	4.24%
INDUSTRIALS	9.08%
REAL ESTATE	3.60%
TECHNOLOGY	22.28%
UTILITIES	3.10%

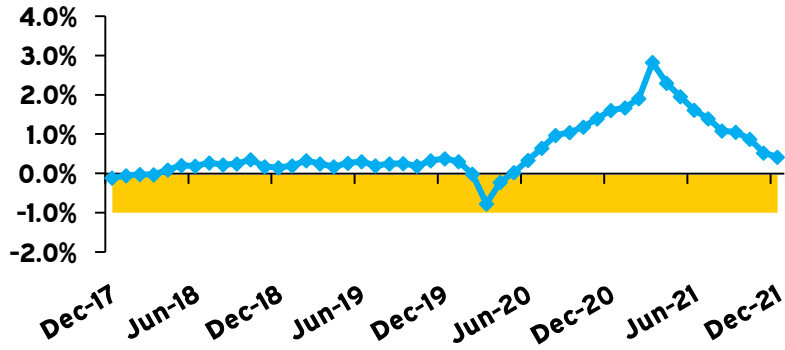
#### Top Holdings as of November 30, 2021

SAMSUNG ELECTRONICS CO LTD	3.63%
TENCENT HOLDINGS LTD	3.36%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.14%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD ADR	1.57%
ALIBABA GROUP HOLDING LTD ADR	1.14%
RELIANCE INDUSTRIES LTD	0.91%
CHINA CONSTRUCTION BANK CORP CLASS H	0.87%
PING AN INSURANCE (GROUP) CO. OF CHINA LTD CLASS H	0.74%
VALE SA	0.68%
SK HYNIX INC	0.67%

#### Top Countries as of December 31, 2021

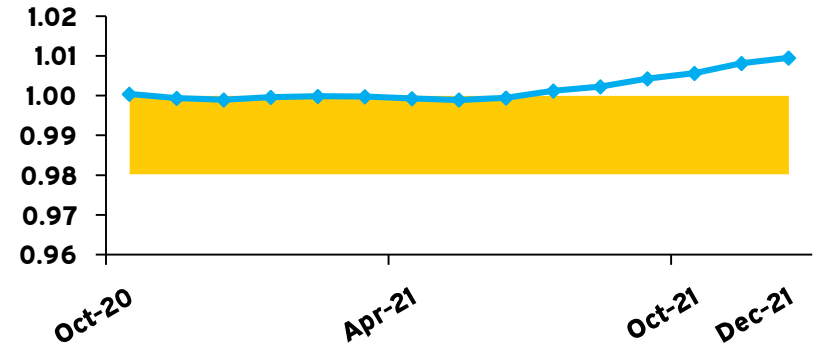
### Metropolitan West Total Return Bond I | As of December 31, 2021

#### Short Term – Rolling 12-Month Excess Return



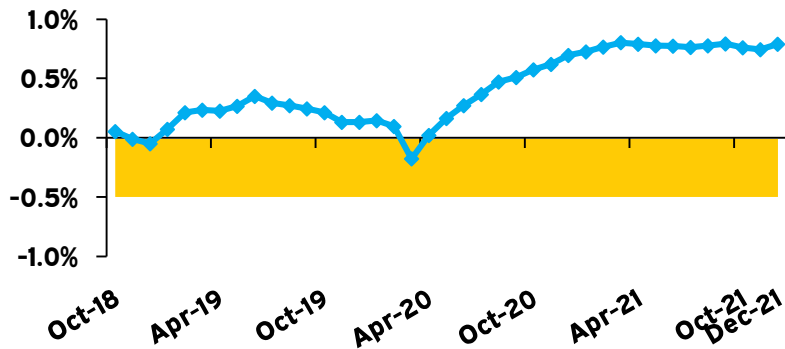
Results fall in the positive range.  
Probationary Threshold -1.00%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.98

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

Benchmark: Bloomberg US Aggregate TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
Metropolitan West Total Return Bond I	-0.1	-1.1	5.6	4.0	3.6	10/7/2015
Bloomberg US Aggregate TR	0.0	-1.5	4.8	3.6	3.2	

#### Monitoring Status

Positive



### Metropolitan West Total Return Bond I | As of December 31, 2021

#### Description:

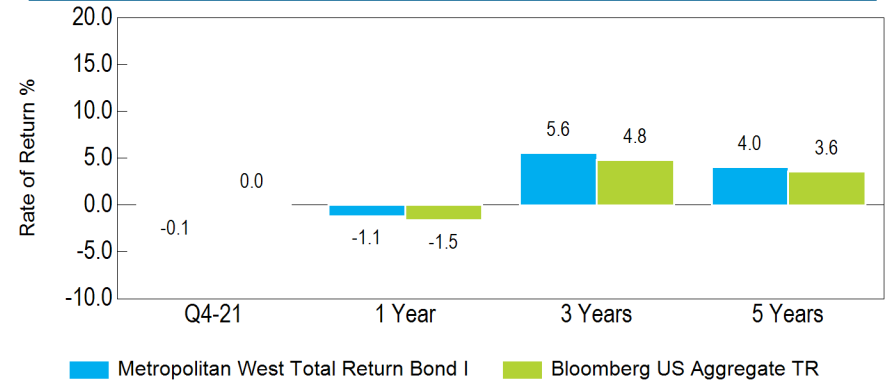
The investment seeks to maximize long-term total return.

The fund pursues its objective by investing, under normal circumstances, at least 80% of its net assets in investment grade fixed income securities or unrated securities determined by the Adviser to be of comparable quality. Up to 20% of the fund's net assets may be invested in securities rated below investment grade or unrated securities determined by the Adviser to be of comparable quality. The fund also invests at least 80% of its net assets plus borrowings for investment purposes in fixed income securities it regards as bonds.

#### Portfolio Fund Information as of December 31, 2021

<b>Ticker</b>	MWTIX
<b>Morningstar Category</b>	Intermediate Core-Plus Bond
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	52,316.08
<b>% Assets in Top 10 Holdings</b>	45.69
<b>Total Number of Holdings</b>	1,806
<b>Manager Name</b>	Stephen M. Kane
<b>Manager Tenure</b>	25
<b>Expense Ratio</b>	0.45%
<b>Closed to New Investors</b>	No

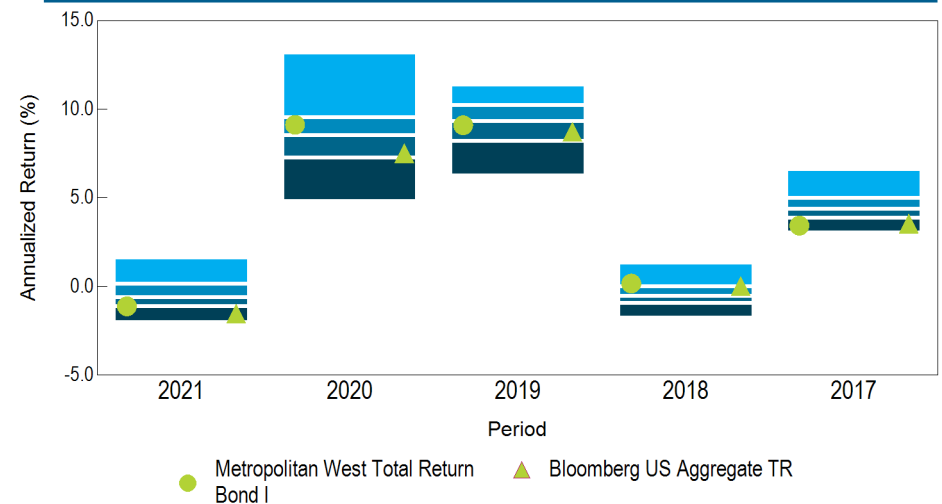
#### Return Summary



#### Intermediate Core Plus Bond MStar MF Return Comparison

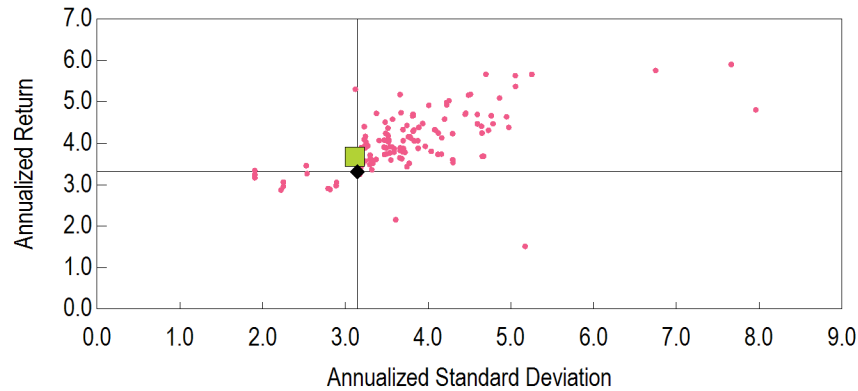


#### Intermediate Core Plus Bond MStar MF Return Comparison



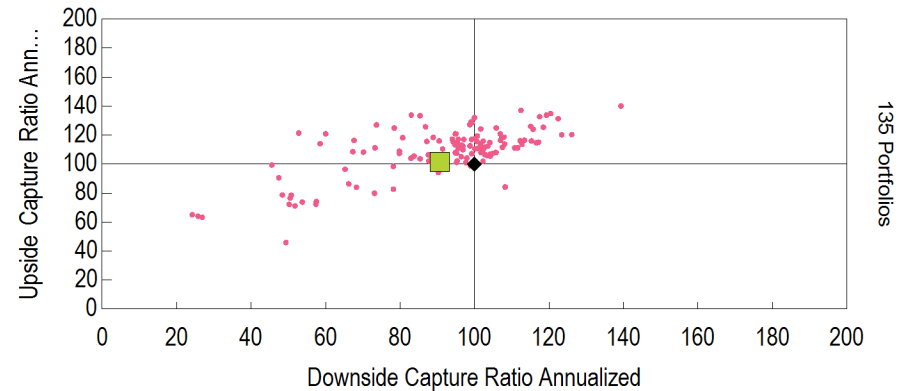
### Metropolitan West Total Return Bond I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
6 Years 1 Month Ending December 31, 2021



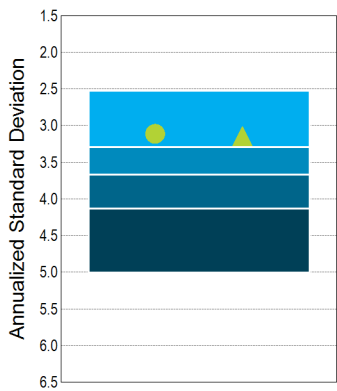
- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- Intermediate Core Plus Bond MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
6 Years 1 Month Ending December 31, 2021

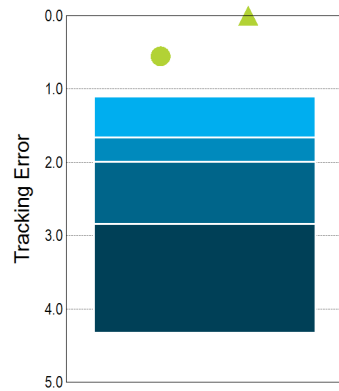


- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- Intermediate Core Plus Bond MStar MF

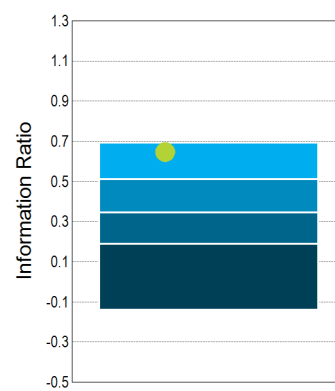
Annualized Standard Deviation



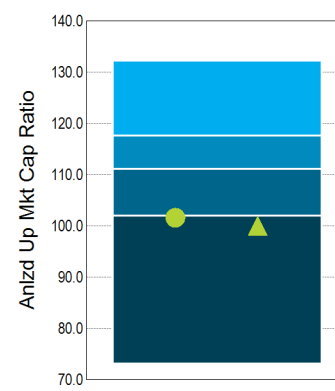
Tracking Error



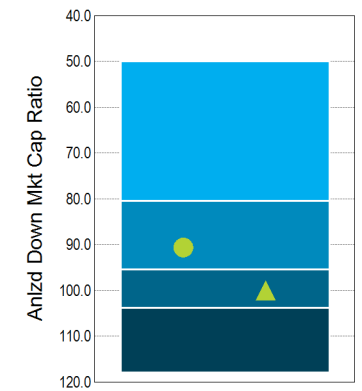
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



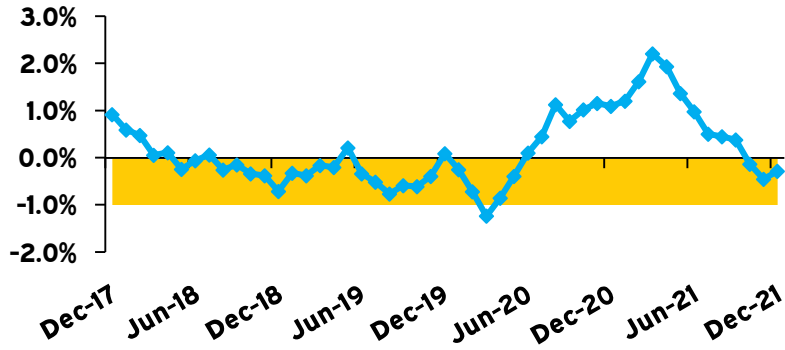
- Metropolitan West Total Return Bond I
- Bloomberg US Aggregate TR
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

Metropolitan West Total Return Bond I | As of December 31, 2021

Fund Characteristics as of December 31, 2021		Top Holdings as of December 31, 2021		Fixed Income Sectors as of December 31, 2021	
Sharpe Ratio (3 Year)	1.34	FEDERAL NATIONAL MORTGAGE ASSOCIATION	7.50%	GOVERNMENT	33.33%
Average Duration	6.32	2.5%		MUNICIPAL	0.52%
Average Coupon	2.23%	UNITED STATES TREASURY NOTES 0.5%	7.08%	CORPORATE	20.79%
Average Effective Maturity	8.27	FEDERAL NATIONAL MORTGAGE ASSOCIATION	6.86%	SECURITIZED	35.29%
R-Squared (3 Year)	0.96	2%		CASH & EQUIVALENTS	5.81%
Alpha (3 Year)	0.06%	UNITED STATES TREASURY NOTES 1.25%	5.96%	DERIVATIVE	4.24%
Beta (3 Year)	1.02	UNITED STATES TREASURY BONDS 1.875%	4.36%		
		UNITED STATES TREASURY NOTES 1.25%	3.95%		
		UNITED STATES TREASURY NOTES 0.375%	2.96%		
		UNITED STATES TREASURY NOTES 1.125%	2.89%		
		UNITED STATES TREASURY NOTES 1.375%	2.23%		
		UNITED STATES TREASURY NOTES 0.75%	1.89%		

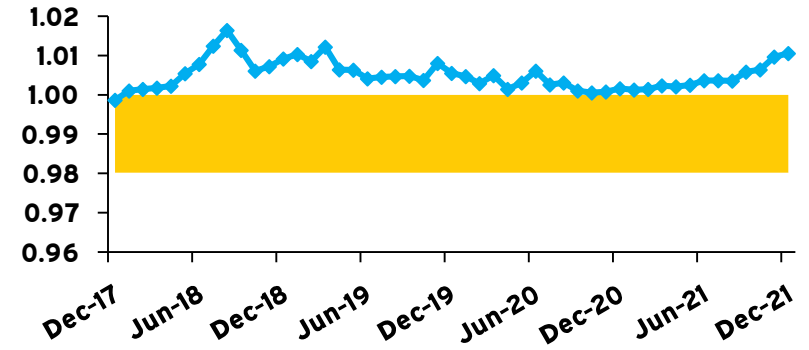
Credit Quality as of December 31, 2021		Maturities as of December 31, 2021		Top Countries as of December 31, 2021	
AAA	64.16%	1 to 3 Years	17.93%	United States	92.51%
AA	4.34%	3 to 5 Years	13.55%	United Kingdom	1.51%
A	10.45%	5 to 7 Years	9.53%	Cayman Islands	1.27%
BBB	14.52%	7 to 10 Years	5.98%	Canada	1.03%
BB	2.59%	10 to 15 Years	5.01%	Germany	0.54%
B	0.78%	15 to 20 Years	8.23%	Switzerland	0.41%
Below B	3.20%	20 to 30 Years	16.95%	Mexico	0.39%
Not Rated	-0.05%	Greater than 30 Years	20.88%	Ireland	0.37%
				Australia	0.32%
				Belgium	0.27%

#### Short Term – Rolling 12-Month Excess Return



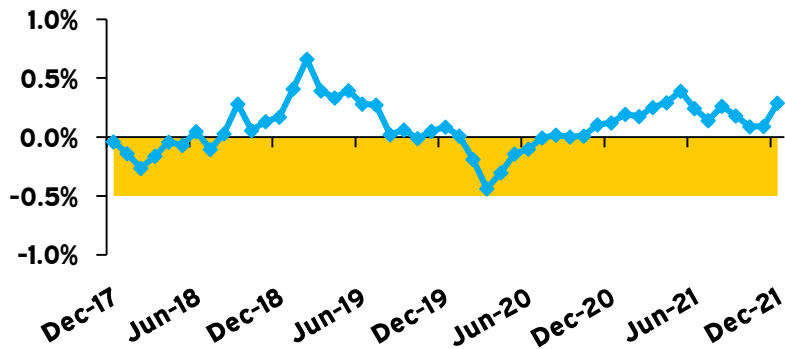
Results fall in the acceptable range.  
Probationary Threshold -1.00%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.98

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

Benchmark: Bloomberg US TIPS TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
PIMCO Real Return	2.1	5.7	8.7	5.5	3.2	11/20/2011
Bloomberg US TIPS TR	2.4	6.0	8.4	5.3	3.1	

#### Monitoring Status

Acceptable

#### Description:

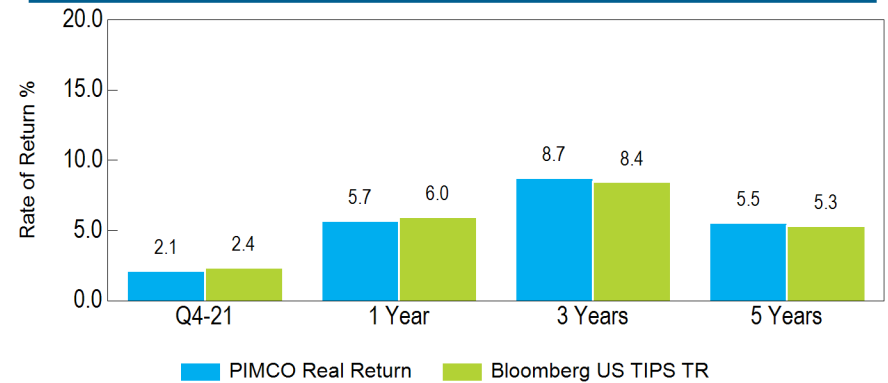
The investment seeks maximum real return, consistent with preservation of capital and prudent investment management.

The fund normally invests at least 80% of its net assets in inflation-indexed bonds of varying maturities issued by the U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations, which may be represented by forwards or derivatives such as options, futures contracts or swap agreements.

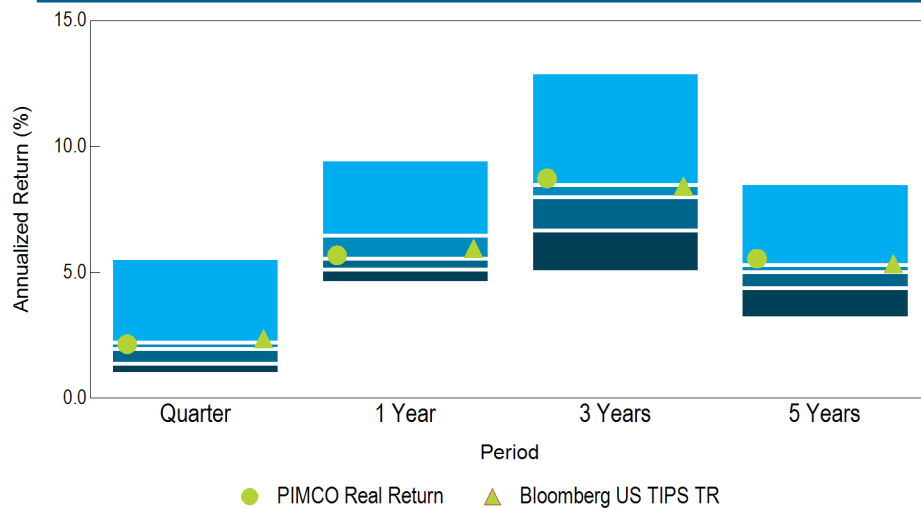
#### Portfolio Fund Information as of September 30, 2021

<b>Ticker</b>	PRRIX
<b>Morningstar Category</b>	Inflation-Protected Bond
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	7,483.87
<b>% Assets in Top 10 Holdings</b>	78.16
<b>Total Number of Holdings</b>	821
<b>Manager Name</b>	Stephen A. Rodosky
<b>Manager Tenure</b>	3
<b>Expense Ratio</b>	0.47%
<b>Closed to New Investors</b>	No

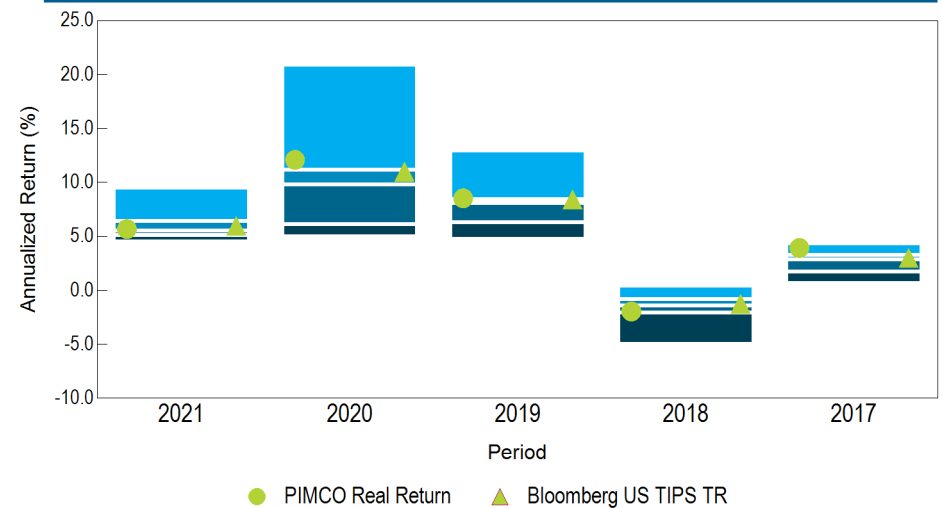
#### Return Summary



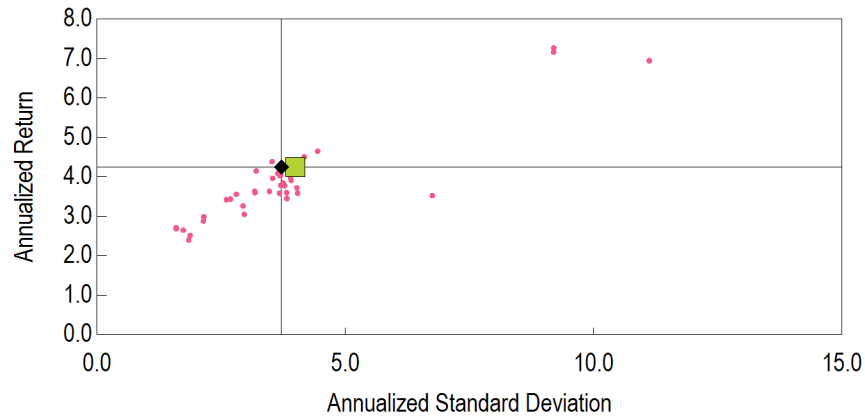
#### Inflation-Protected Bond MStar MF Return Comparison



#### Inflation-Protected Bond MStar MF Return Comparison

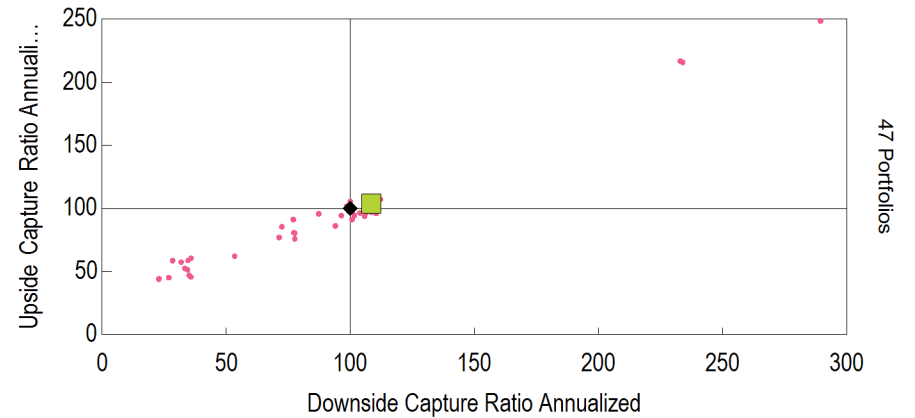


Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



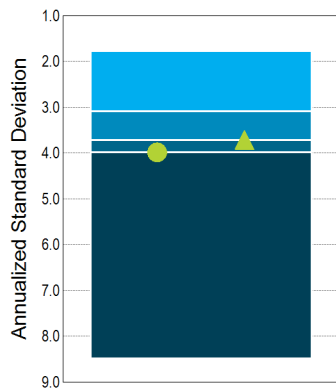
- PIMCO Real Return
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS TR

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



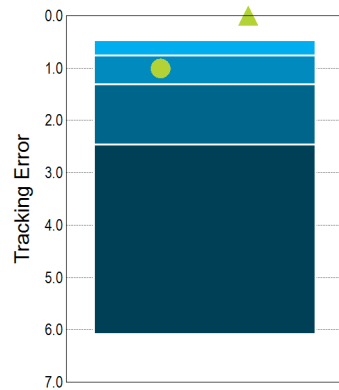
- PIMCO Real Return
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS TR

Annualized Standard Deviation



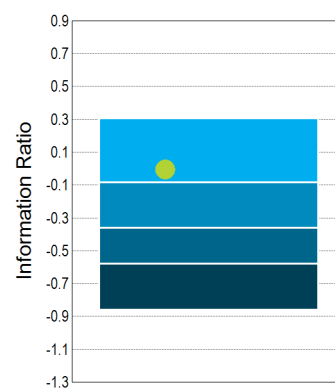
- PIMCO Real Return

Tracking Error

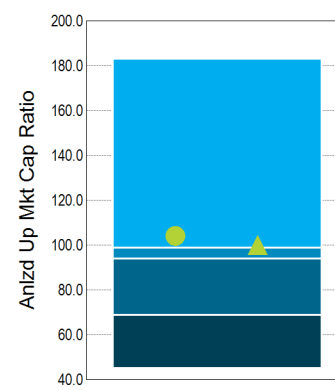


- ▲ Bloomberg US TIPS TR

Information Ratio

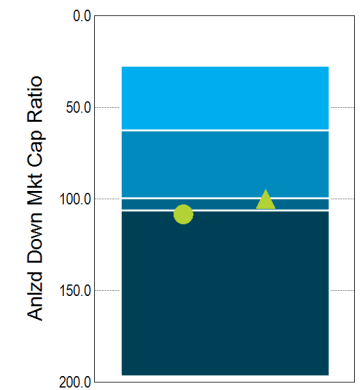


Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile

Anlzd Down Mkt Cap Ratio



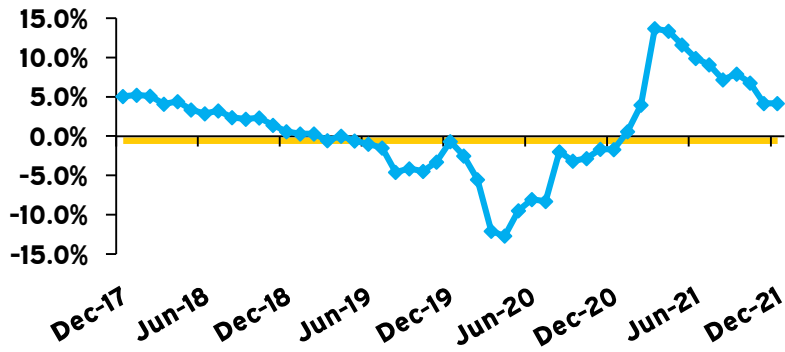
- 75th to 95th Percentile

Fund Characteristics as of September 30, 2021		Top Holdings as of September 30, 2021		Fixed Income Sectors as of September 30, 2021	
Sharpe Ratio (3 Year)	1.54	EURO SCHATZ FUTURE DEC 21	18.59%	GOVERNMENT	68.82%
Average Duration	7.44	5 YEAR TREASURY NOTE FUTURE DEC 21	18.02%	MUNICIPAL	0.00%
Average Coupon	1.11%	10 YEAR TREASURY NOTE FUTURE DEC 21	7.43%	CORPORATE	0.59%
Average Effective Maturity	6.90	2 YEAR TREASURY NOTE FUTURE DEC 21	5.85%	SECURITIZED	8.33%
R-Squared (3 Year)	0.96	UNITED STATES TREASURY NOTES 0.125%	4.91%	CASH & EQUIVALENTS	12.17%
Alpha (3 Year)	0.00%	UNITED STATES TREASURY BONDS 1.375%	4.90%	DERIVATIVE	10.08%
Beta (3 Year)	1.03	UNITED STATES TREASURY BONDS 3.625%	4.67%		
		UNITED STATES TREASURY NOTES 0.125%	4.63%		
		US TREASURY BOND FUTURE DEC 21	4.61%		
		EURO BOBL FUTURE DEC 21	4.56%		

Maturities as of September 30, 2021	
1 to 3 Years	15.15%
3 to 5 Years	14.56%
5 to 7 Years	11.58%
7 to 10 Years	18.78%
10 to 15 Years	2.19%
15 to 20 Years	2.61%
20 to 30 Years	13.02%
Greater than 30 Years	1.76%

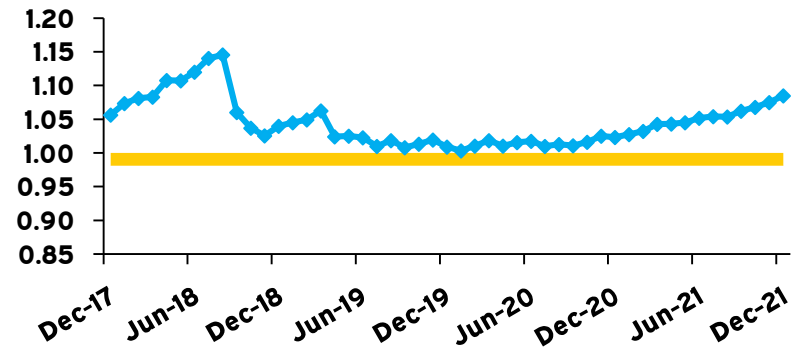
Top Countries as of September 30, 2021	
United States	81.67%
United Kingdom	5.46%
Italy	3.17%
Germany	2.11%
Denmark	1.95%
Cayman Islands	1.55%
Japan	1.28%
France	0.93%
Ireland	0.87%
Netherlands	0.23%

#### Short Term – Rolling 12-Month Excess Return



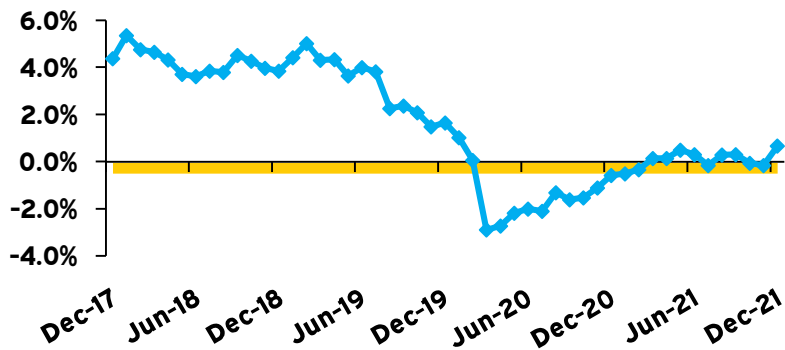
Results fall in the positive range.  
Probationary Threshold -1.00%

#### Long Term – VRR



Results fall in the positive range.  
Probationary Threshold <0.98

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.50%

Benchmark: Bloomberg US Aggregate TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
PIMCO Income I	0.2	2.6	5.5	5.1	6.9	11/20/2011
Bloomberg US Aggregate TR	0.0	-1.5	4.8	3.6	3.0	

#### Monitoring Status

Positive



#### Description:

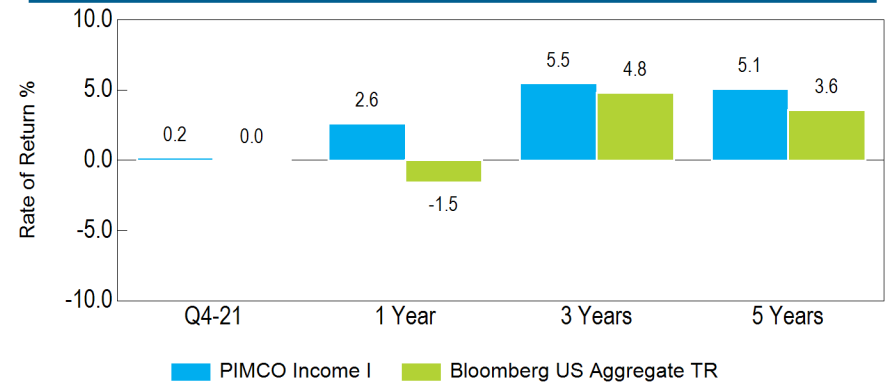
The investment seeks to maximize current income; long-term capital appreciation is a secondary objective.

The fund invests at least 65% of its total assets in a multi-sector portfolio of Fixed Income Instruments of varying maturities, which may be represented by forwards or derivatives such as options, futures contracts or swap agreements. It may invest up to 50% of its total assets in high yield securities rated below investment grade by Moody's, S&P or Fitch, or if unrated, as determined by PIMCO.

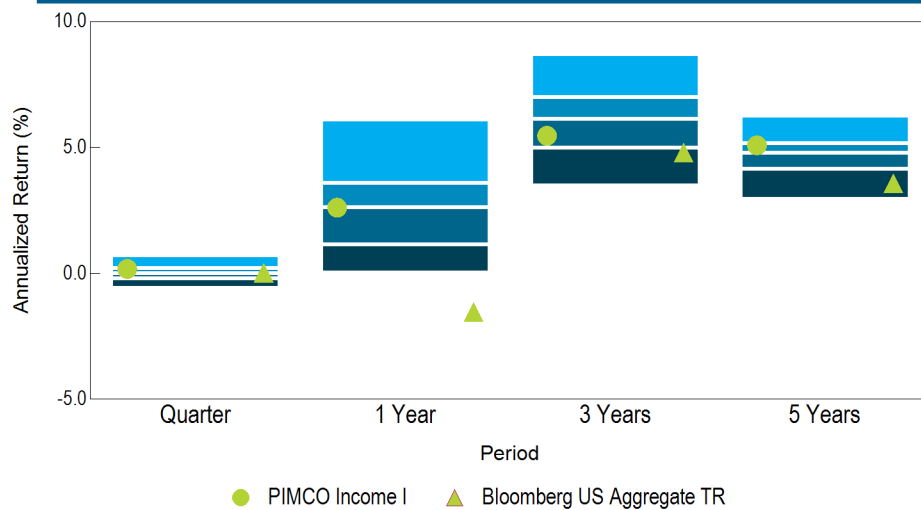
#### Portfolio Fund Information as of September 30, 2021

<b>Ticker</b>	PIMIX
<b>Morningstar Category</b>	Multisector Bond
<b>Average Market Cap (\$mm)</b>	4,014.19
<b>Net Assets (\$mm)</b>	81,873.02
<b>% Assets in Top 10 Holdings</b>	27.86
<b>Total Number of Holdings</b>	7,521
<b>Manager Name</b>	Daniel J. Ivascyn
<b>Manager Tenure</b>	15
<b>Expense Ratio</b>	0.62%
<b>Closed to New Investors</b>	No

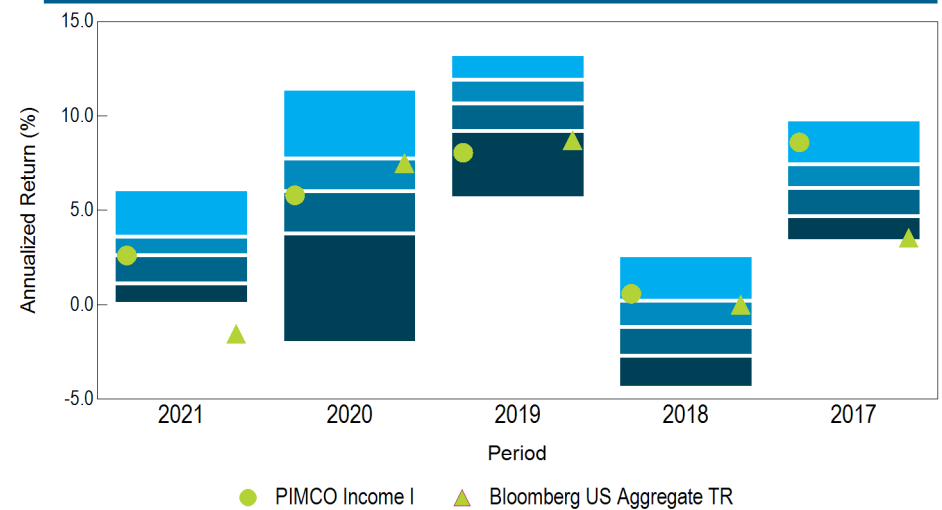
#### Return Summary



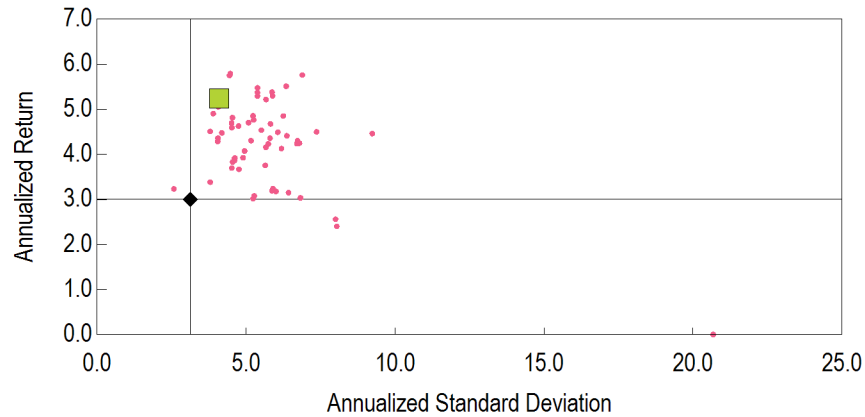
#### Multisector Bond MStar MF Return Comparison



#### Multisector Bond MStar MF Return Comparison

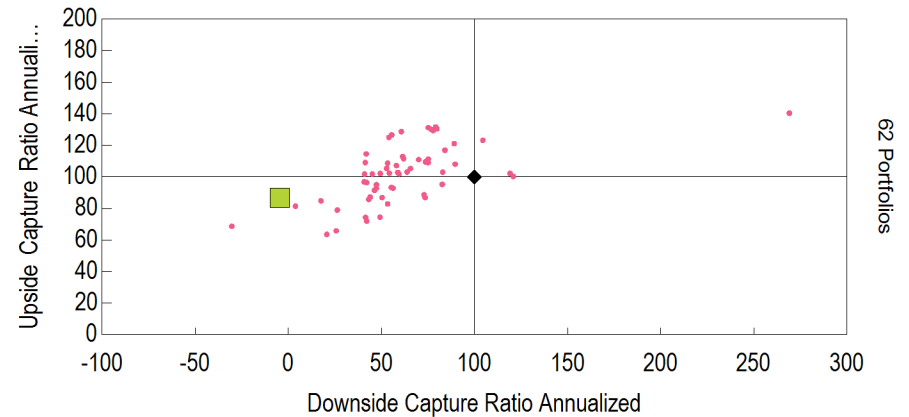


Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



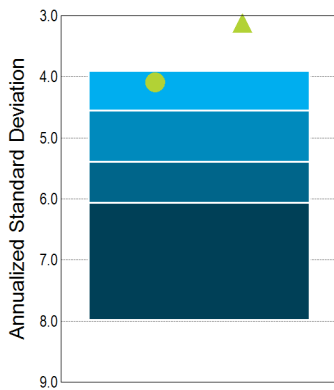
■ PIMCO Income I      ● Multisector Bond MStar MF  
◆ Bloomberg US Aggregate TR

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021

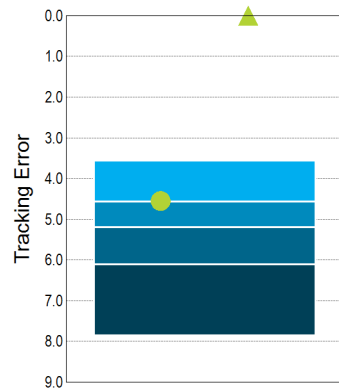


■ PIMCO Income I      ● Multisector Bond MStar MF  
◆ Bloomberg US Aggregate TR

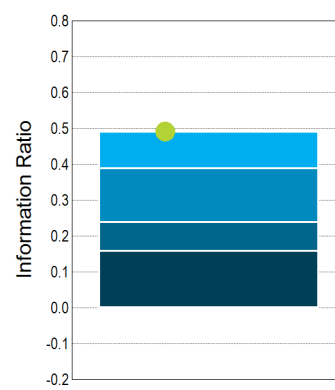
Annualized Standard Deviation



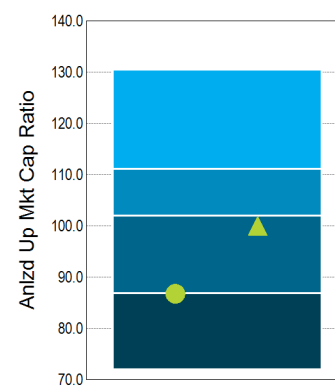
Tracking Error



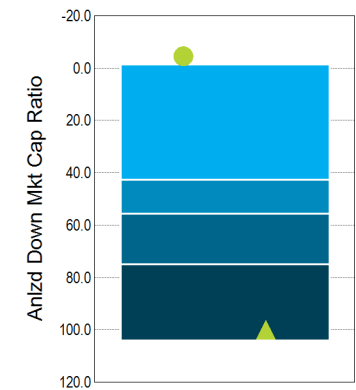
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



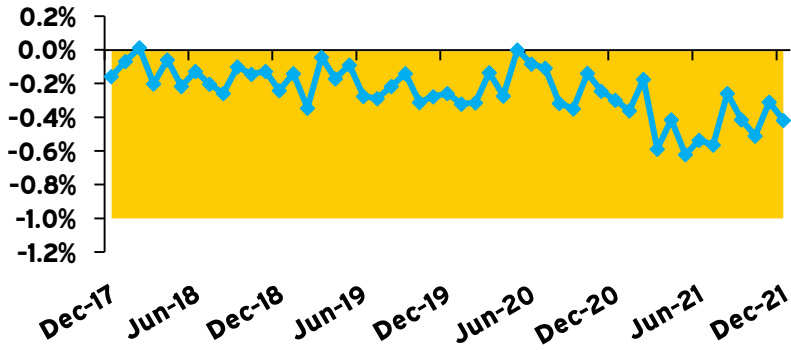
● PIMCO Income I      ▲ Bloomberg US Aggregate TR      ■ 5th to 25th Percentile      ■ 25th to Median      ■ Median to 75th Percentile      ■ 75th to 95th Percentile

Fund Characteristics as of September 30, 2021		Top Holdings as of September 30, 2021		Fixed Income Sectors as of September 30, 2021	
Sharpe Ratio (3 Year)	0.80	10 YEAR TREASURY NOTE FUTURE DEC 21	11.86%	GOVERNMENT	53.76%
Average Duration	1.74	FEDERAL NATIONAL MORTGAGE ASSOCIATION	2.56%	MUNICIPAL	0.06%
Average Coupon	4%	ULTRA US TREASURY BOND FUTURE DEC 21	2.22%	CORPORATE	8.91%
Average Effective Maturity	2.61	US TREASURY BOND FUTURE DEC 21	2.07%	SECURITIZED	21.35%
R-Squared (3 Year)	0.05	LONG-TERM EURO BTP FUTURE DEC 21	2.03%	CASH & EQUIVALENTS	2.73%
Alpha (3 Year)	0.31%	FEDERAL NATIONAL MORTGAGE ASSOCIATION	1.85%	DERIVATIVE	13.19%
Beta (3 Year)	0.38	CSMC TRUST 3.28052%	1.34%		
		CITIGROUP MTG LN TR 2021-RP4	1.32%		
		DURHAM MORTGAGES B PLC 0.7004%	1.32%		
		UNITED STATES TREASURY NOTES 0.25%	1.29%		

Maturities as of September 30, 2021	
1 to 3 Years	6.78%
3 to 5 Years	19.86%
5 to 7 Years	6.54%
7 to 10 Years	16.65%
10 to 15 Years	5.48%
15 to 20 Years	3.94%
20 to 30 Years	14.95%
Greater than 30 Years	11.21%

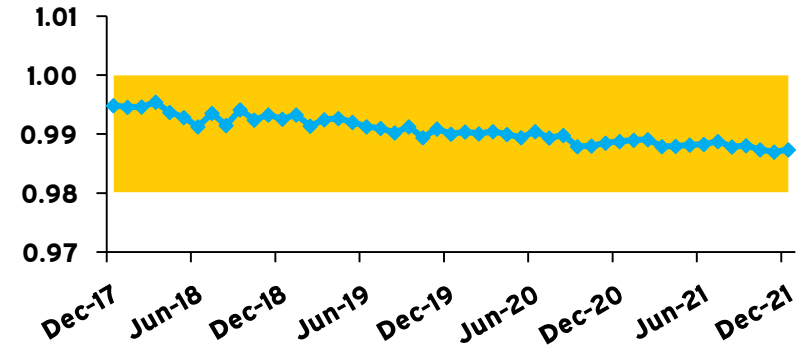
Top Countries as of September 30, 2021	
United States	67.66%
Belize	5.90%
Mexico	5.74%
Japan	4.49%
United Kingdom	4.15%
Australia	2.06%
South Africa	1.52%
Italy	1.21%
Russia	1.18%
Brazil	0.91%

#### Short Term – Rolling 12-Month Excess Return



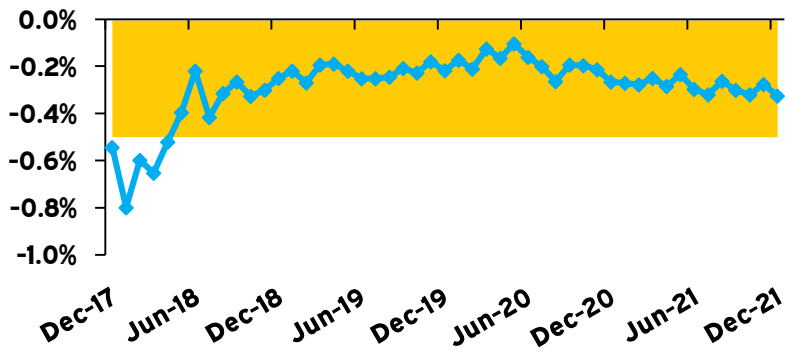
Results fall in the acceptable range.  
Probationary Threshold -1.00%

#### Long Term – VRR



Results fall in the acceptable range.  
Probationary Threshold <0.98

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.50%

Benchmark: Bloomberg US TIPS 1-10 Yr TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Inflation Link Bond I	1.4	5.3	6.6	4.2	2.4	11/20/2011
Bloomberg US TIPS 1-10 Yr TR	1.5	5.7	7.0	4.5	2.5	

#### Monitoring Status

Acceptable

### TIAA-CREF Inflation Link Bond I | As of December 31, 2021

#### Description:

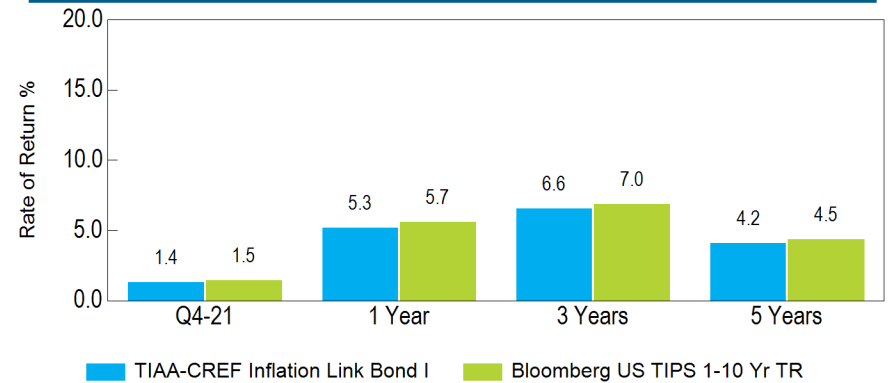
The investment seeks to provide inflation protection and income, primarily through investment in inflation-linked bonds.

The fund invests at least 80% of its assets in fixed-income securities whose principal value increases or decreases based on changes in the Consumer Price Index for All Urban Consumers ("CPI-U"), over the life of the security. Typically, it will invest in U.S. Treasury Inflation-Indexed Securities ("TIPS"). Under most circumstances, the fund's investments in inflation-linked bonds of foreign issuers are generally less than 20% of its assets.

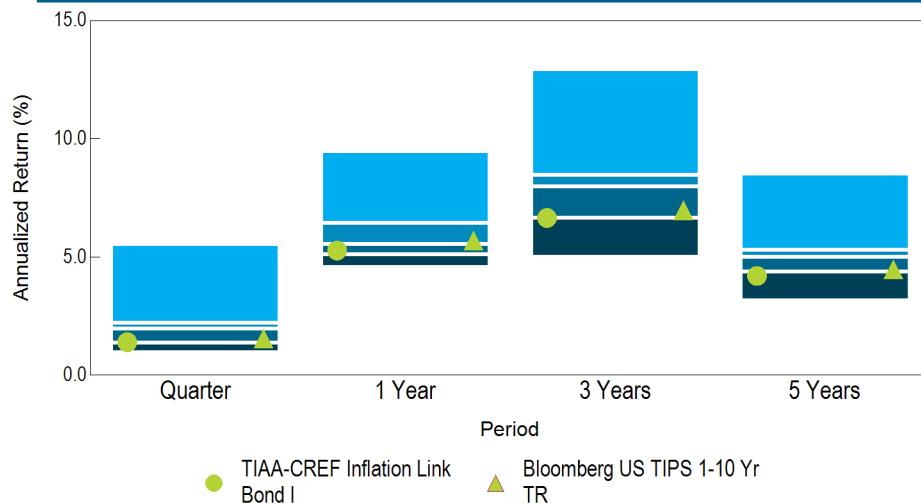
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TILX
<b>Morningstar Category</b>	Inflation-Protected Bond
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	1,310.20
<b>% Assets in Top 10 Holdings</b>	42.26
<b>Total Number of Holdings</b>	49
<b>Manager Name</b>	John Michael Cerra
<b>Manager Tenure</b>	13
<b>Expense Ratio</b>	0.25%
<b>Closed to New Investors</b>	No

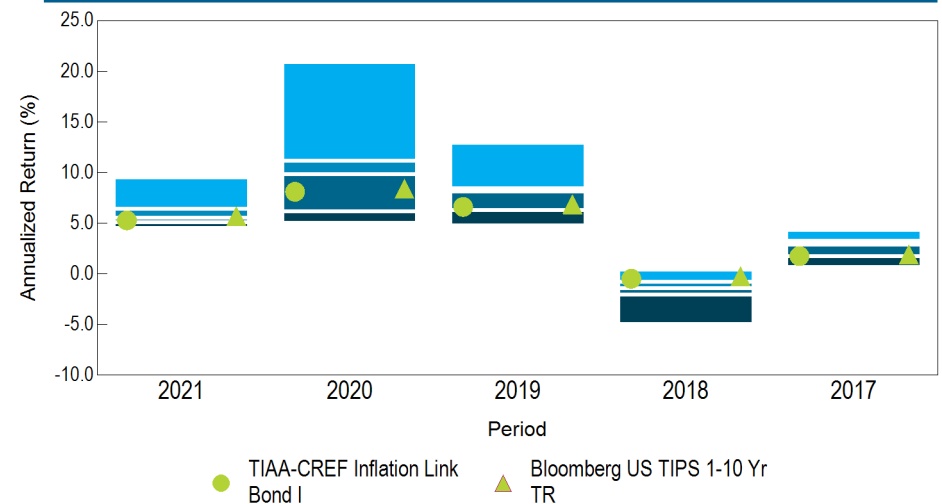
#### Return Summary



#### Inflation-Protected Bond MStar MF Return Comparison

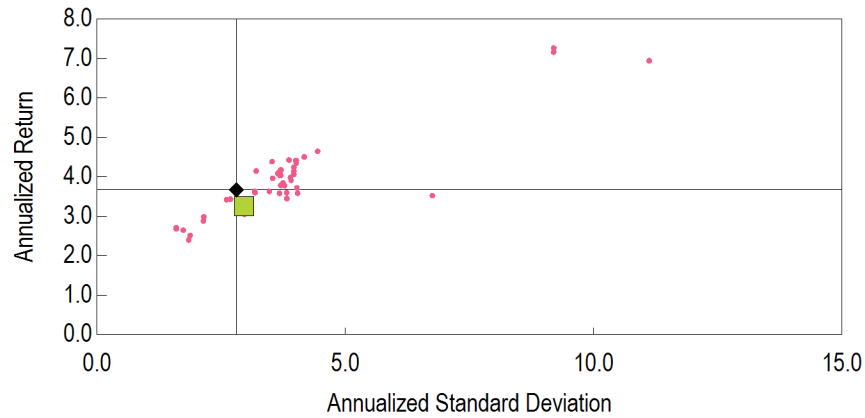


#### Inflation-Protected Bond MStar MF Return Comparison



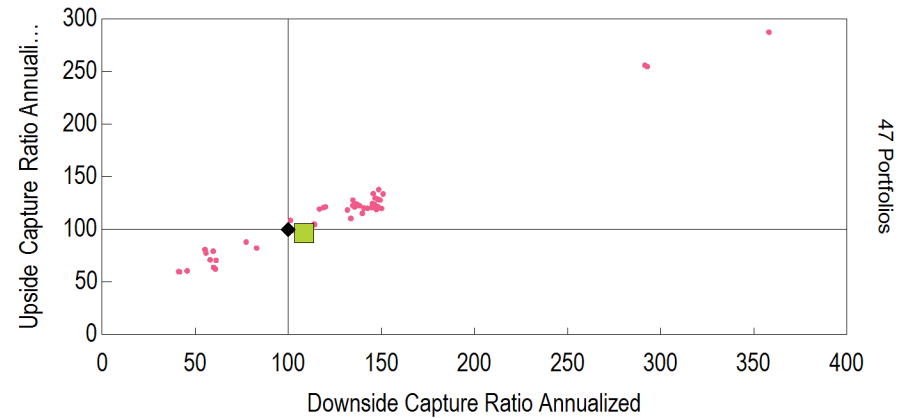
### TIAA-CREF Inflation Link Bond I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



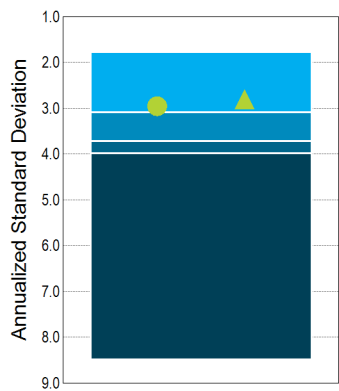
- TIAA-CREF Inflation Link Bond I
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS 1-10 Yr TR

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



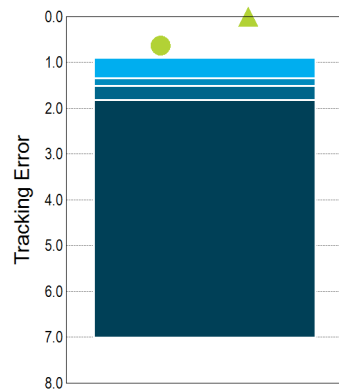
- TIAA-CREF Inflation Link Bond I
- Inflation-Protected Bond MStar MF
- ◆ Bloomberg US TIPS 1-10 Yr TR

Annualized Standard Deviation



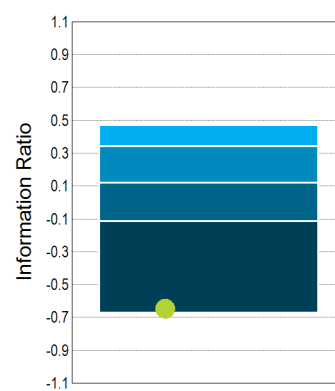
- TIAA-CREF Inflation Link Bond I
- ▲ Bloomberg US TIPS 1-10 Yr TR

Tracking Error



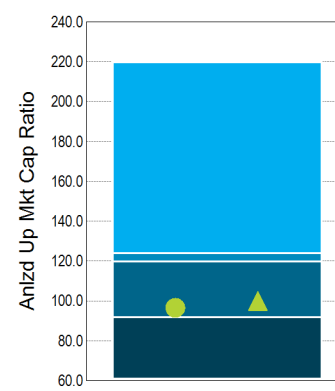
- TIAA-CREF Inflation Link Bond I
- ▲ Bloomberg US TIPS 1-10 Yr TR

Information Ratio



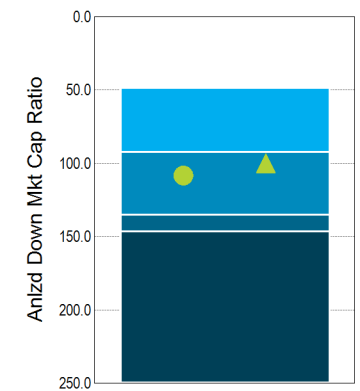
- 5th to 25th Percentile
- 25th to Median

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

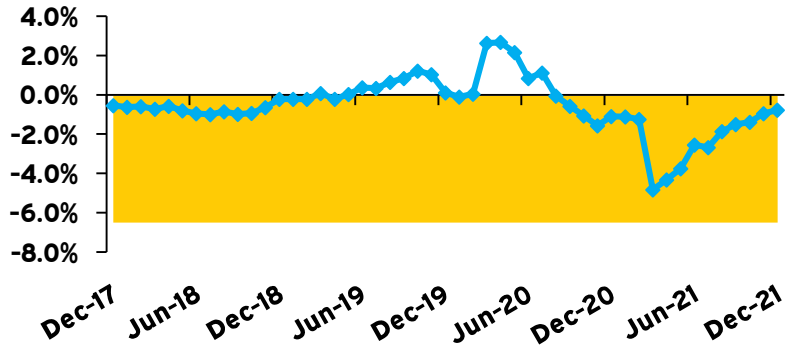
Anlzd Down Mkt Cap Ratio



Fund Characteristics as of November 30, 2021		Top Holdings as of November 30, 2021		Fixed Income Sectors as of November 30, 2021	
Sharpe Ratio (3 Year)	2.09	UNITED STATES TREASURY NOTES 0.625%	4.83%	GOVERNMENT	97.03%
Average Duration	4.71	UNITED STATES TREASURY NOTES 0.625%	4.78%	MUNICIPAL	0.00%
Average Coupon	0.78%	UNITED STATES TREASURY NOTES 0.125%	4.43%	CORPORATE	0.35%
Average Effective Maturity	4.83	UNITED STATES TREASURY NOTES 0.375%	4.41%	SECURITIZED	2.49%
R-Squared (3 Year)	0.98	UNITED STATES TREASURY NOTES 0.5%	4.24%	CASH & EQUIVALENTS	0.13%
Alpha (3 Year)	0.01%	UNITED STATES TREASURY NOTES 0.125%	4.12%	DERIVATIVE	0.00%
Beta (3 Year)	0.94	UNITED STATES TREASURY NOTES 0.125%	4.11%		
		UNITED STATES TREASURY NOTES 0.375%	3.95%		
		UNITED STATES TREASURY NOTES 0.625%	3.73%		
		UNITED STATES TREASURY NOTES 0.25%	3.65%		

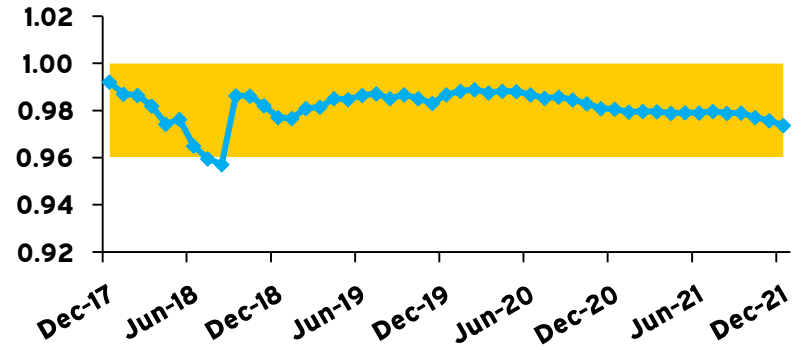
Credit Quality as of November 30, 2021		Maturities as of November 30, 2021		Top Countries as of November 30, 2021	
AAA	99.65%	1 to 3 Years	25.49%	United States	99.92%
AA	0.00%	3 to 5 Years	28.29%	India	0.08%
A	0.00%	5 to 7 Years	19.34%		
BBB	0.00%	7 to 10 Years	19.39%		
BB	0.00%	10 to 15 Years	2.80%		
B	0.00%	15 to 20 Years	1.26%		
Below B	0.00%	20 to 30 Years	1.19%		
Not Rated	0.35%	Greater than 30 Years	0.00%		

#### Short Term – Rolling 12-Month Excess Return



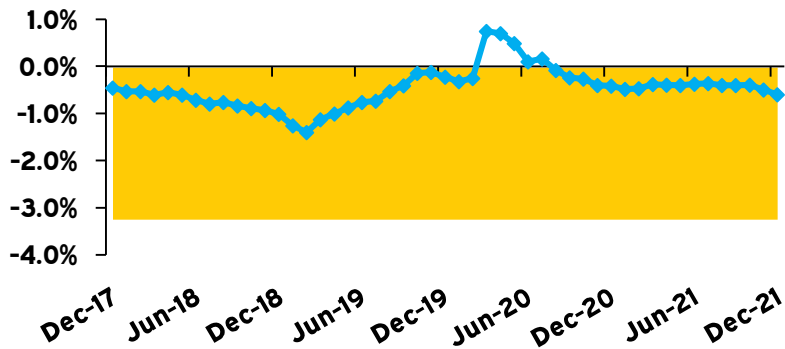
Results fall in the acceptable range.  
Probationary Threshold -6.50%

#### Long Term – VRR



Results fall in the acceptable range.  
Probationary Threshold <0.96

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -3.25%

Benchmark: S&P/LSTA Performing Loan TR USD

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TRowe Price Floating Rate I	0.8	4.7	5.2	4.0	4.4	11/20/2011
S&P/LSTA Performing Loan TR USD	0.8	5.4	5.9	4.5	4.9	

#### Monitoring Status

Acceptable



### TRowe Price Floating Rate I | As of December 31, 2021

#### Description:

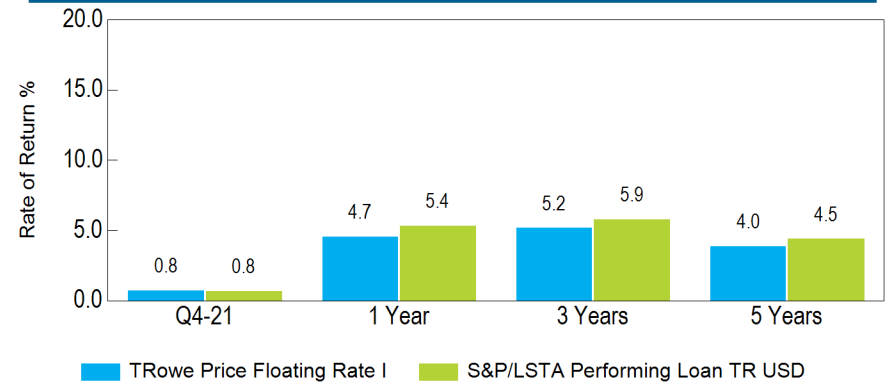
The investment seeks high current income and, secondarily, capital appreciation.

The fund invests at least 80% of its net assets (including any borrowings for investment purposes) in floating rate loans and floating rate debt securities. Floating rate loans represent amounts borrowed by companies or other entities from banks and other lenders. The fund may also invest up to 20% of its total assets in non-U.S. dollar-denominated loans and debt instruments (including instruments of issuers in emerging markets) in keeping with the fund's investment objective.

#### Portfolio Fund Information as of December 31, 2021

<b>Ticker</b>	RPIFX
<b>Morningstar Category</b>	Bank Loan
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	5,373.50
<b>% Assets in Top 10 Holdings</b>	26.50
<b>Total Number of Holdings</b>	431
<b>Manager Name</b>	Paul M. Massaro
<b>Manager Tenure</b>	13
<b>Expense Ratio</b>	0.58%
<b>Closed to New Investors</b>	No

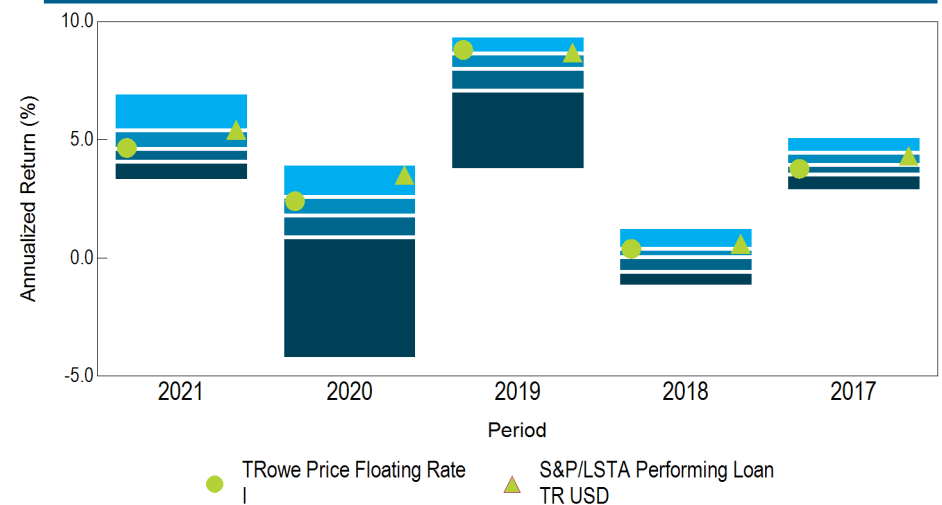
#### Return Summary



#### Bank Loan MStar MF Return Comparison

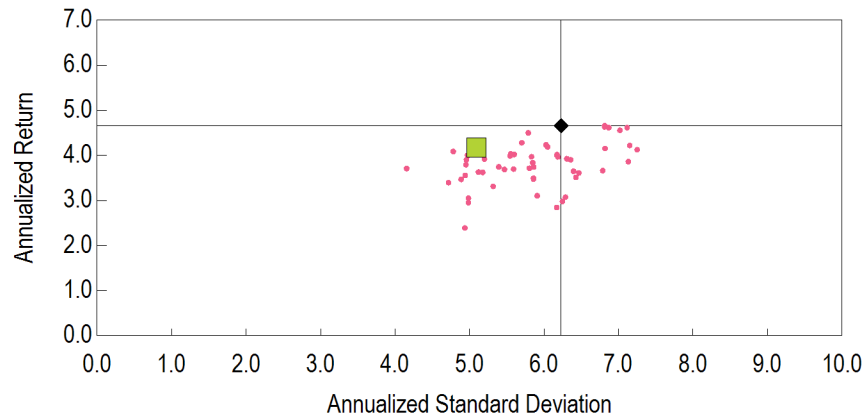


#### Bank Loan MStar MF Return Comparison



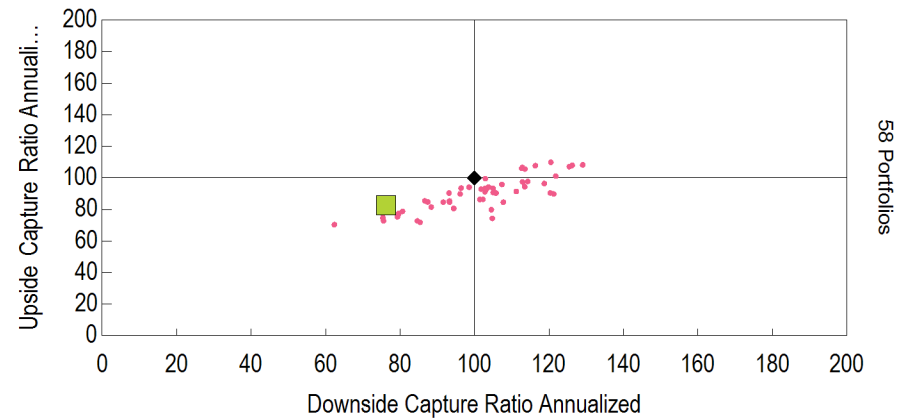
### TRowe Price Floating Rate I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



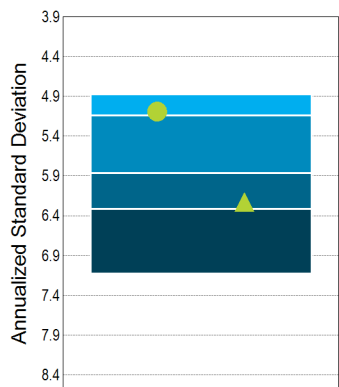
- TRowe Price Floating Rate I
- ◆ S&P/LSTA Performing Loan TR USD
- Bank Loan MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



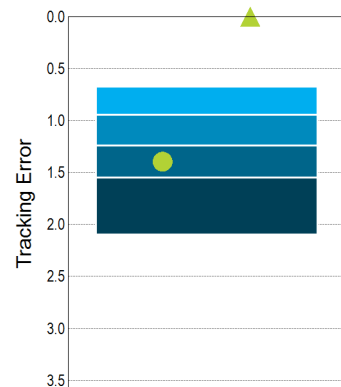
- TRowe Price Floating Rate I
- ◆ S&P/LSTA Performing Loan TR USD
- Bank Loan MStar MF

Annualized Standard Deviation



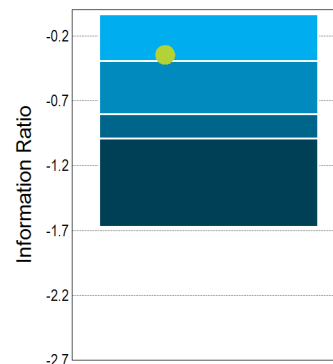
- TRowe Price Floating Rate I
- ▲ S&P/LSTA Performing Loan TR USD

Tracking Error



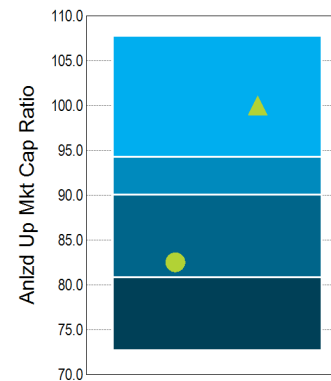
- TRowe Price Floating Rate I
- ▲ S&P/LSTA Performing Loan TR USD

Information Ratio



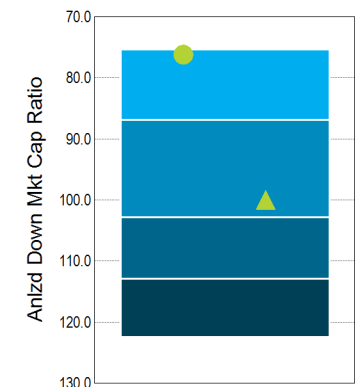
- 5th to 25th Percentile
- 25th to Median

Anlzd Up Mkt Cap Ratio



- Median to 75th Percentile
- 75th to 95th Percentile

Anlzd Down Mkt Cap Ratio

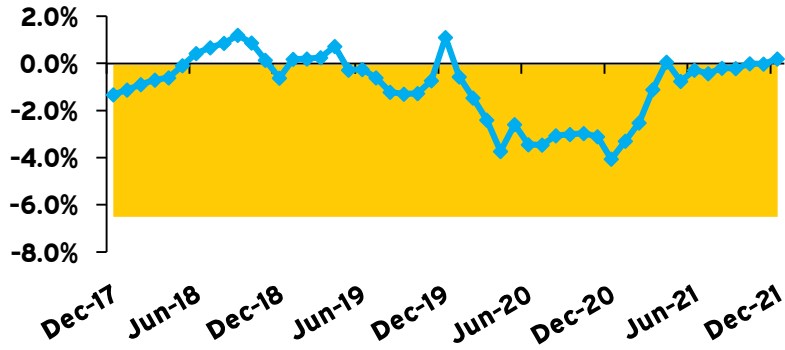


- Median to 75th Percentile
- 75th to 95th Percentile

Fund Characteristics as of December 31, 2021		Top Holdings as of December 31, 2021		Fixed Income Sectors as of December 31, 2021	
Sharpe Ratio (3 Year)	0.60	T. ROWE PRICE GOV. RESERVE	14.54%	GOVERNMENT	0.01%
Average Duration	0.40	UKG	1.88%	MUNICIPAL	0.00%
Average Coupon	4.66%	HUB INTERNATIONAL	1.86%	CORPORATE	86.59%
Average Effective Maturity	5.26	MOZART BORROWER	1.62%	SECURITIZED	0.00%
R-Squared (3 Year)	0.98	EPICOR SOFTWARE	1.24%	CASH & EQUIVALENTS	13.40%
Alpha (3 Year)	0.04%	UFC HOLDINGS	1.16%	DERIVATIVE	0.00%
Beta (3 Year)	0.81	PETVET CARE CENTERS	1.10%		
		ASURION	1.09%		
		MILEAGE PLUS HOLDINGS	1.01%		
		UKG	1.00%		

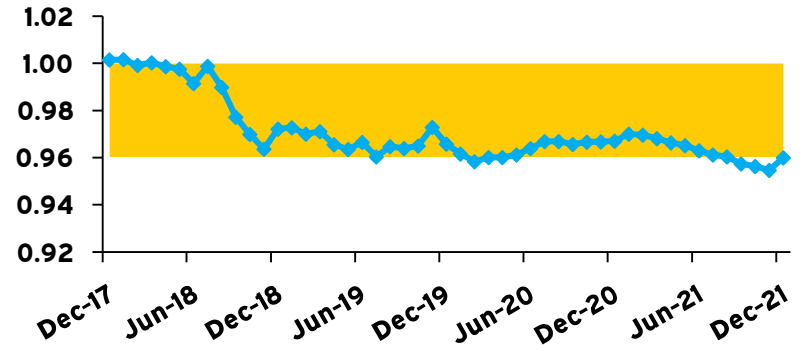
Credit Quality as of December 31, 2021		Maturities as of December 31, 2021		Top Countries as of December 31, 2021	
AAA	5.15%	1 to 3 Years	6.71%	United States	92.72%
AA	0.00%	3 to 5 Years	33.78%	United Kingdom	1.84%
A	0.10%	5 to 7 Years	52.49%	Luxembourg	1.24%
BBB	2.01%	7 to 10 Years	6.71%	Canada	1.15%
BB	8.64%	10 to 15 Years	0.00%	France	0.92%
B	69.01%	15 to 20 Years	0.00%	Germany	0.62%
Below B	12.26%	20 to 30 Years	0.00%	Sweden	0.52%
Not Rated	2.82%	Greater than 30 Years	0.00%	Denmark	0.32%
				Finland	0.20%
				Netherlands	0.20%

#### Short Term – Rolling 12-Month Excess Return



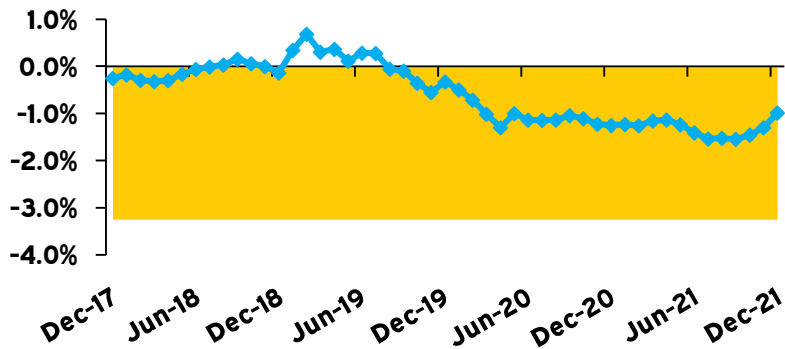
Results fall in the positive range.  
Probationary Threshold -6.50%

#### Long Term – VRR



Results fall in the acceptable range.  
Probationary Threshold <0.96

#### Medium Term – Rolling 36-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -3.25%

Benchmark: ICE BofAML BB-B US High Yield Constrained TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF High-Yield I	0.8	4.8	7.6	5.1	5.9	11/20/2011
ICE BofAML BB-B US High Yield Constrained TR	0.7	4.6	8.6	6.0	6.5	

#### Monitoring Status

Acceptable

#### Description:

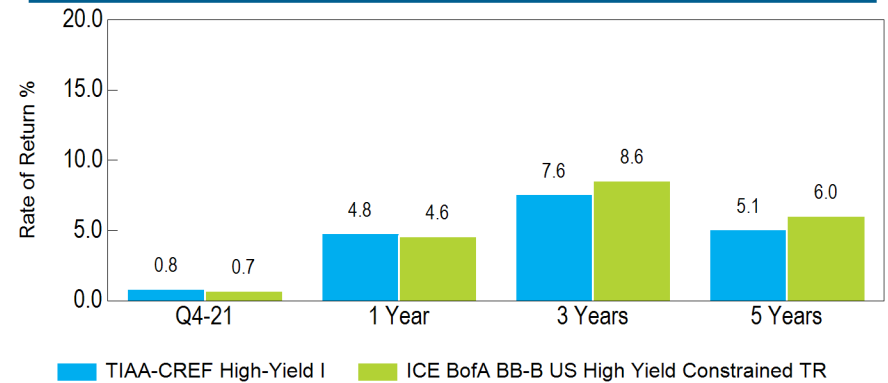
The investment seeks total return primarily through high current income and, when consistent with its primary objective, capital appreciation.

The fund invests primarily in lower-rated, higher-yielding fixed-income securities, such as domestic and foreign corporate bonds, debentures, senior loans, loan participations and assignments and notes, as well as convertible and preferred securities. Under normal circumstances, it invests at least 80% of its assets in debt and other fixed-income securities rated lower than investment-grade (and their unrated equivalents) or other high-yielding debt securities.

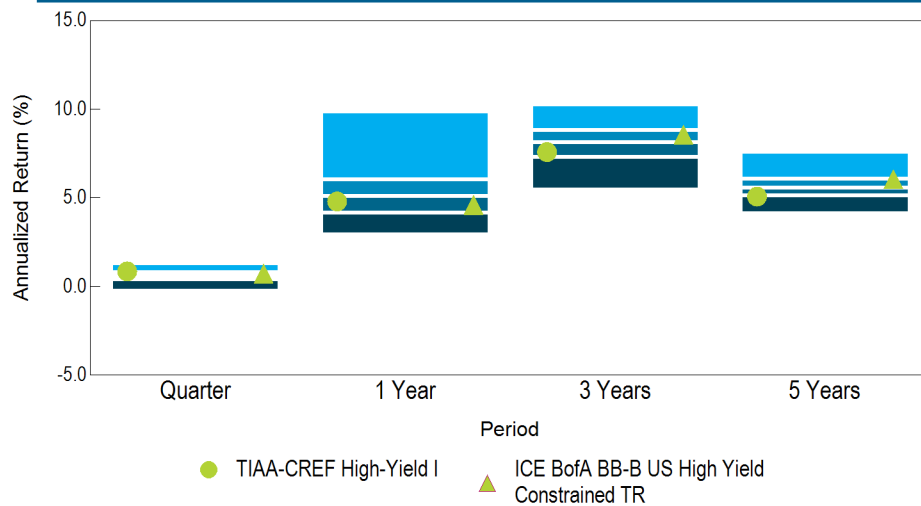
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TIHYX
<b>Morningstar Category</b>	High Yield Bond
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	2,382.66
<b>% Assets in Top 10 Holdings</b>	10.20
<b>Total Number of Holdings</b>	371
<b>Manager Name</b>	Kevin R. Lorenz
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.36%
<b>Closed to New Investors</b>	No

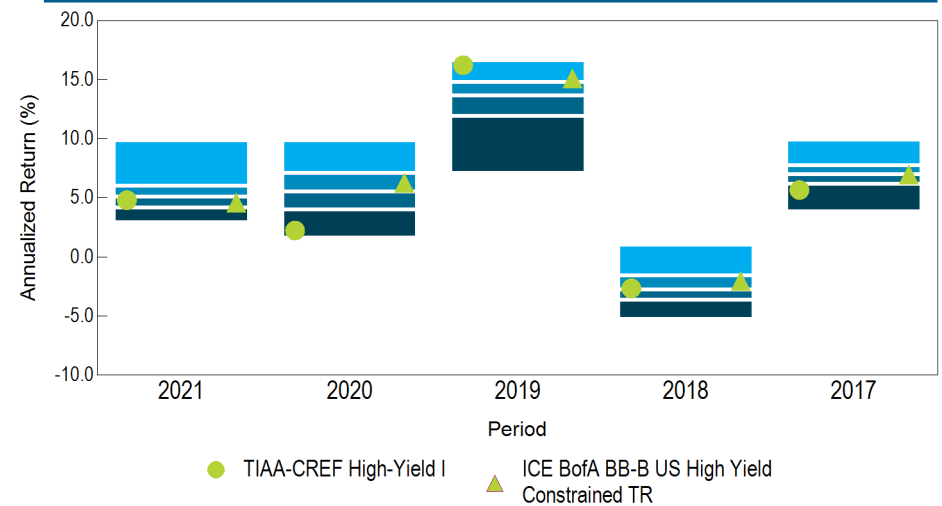
#### Return Summary



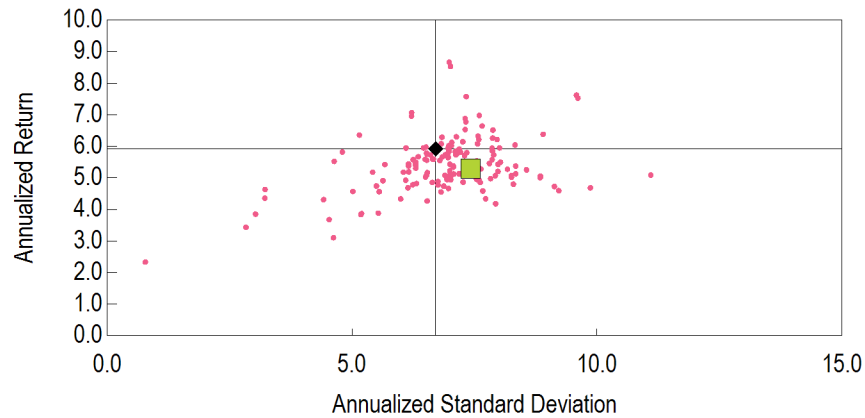
#### High Yield Bond MStar MF Return Comparison



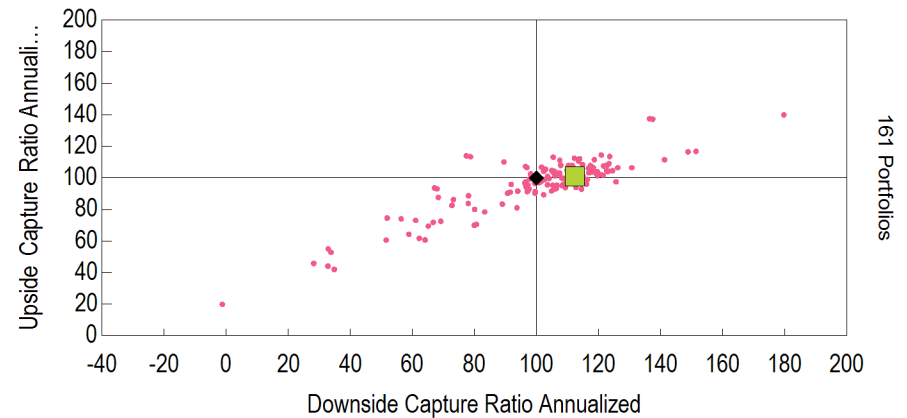
#### High Yield Bond MStar MF Return Comparison



Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



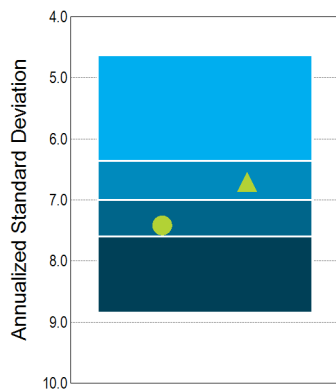
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



- TIAA-CREF High-Yield I
- ◆ ICE BofA BB-B US High Yield Constrained TR
- High Yield Bond MStar MF

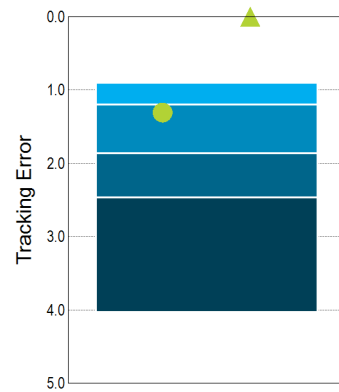
- TIAA-CREF High-Yield I
- ◆ ICE BofA BB-B US High Yield Constrained TR
- High Yield Bond MStar MF

Annualized Standard Deviation



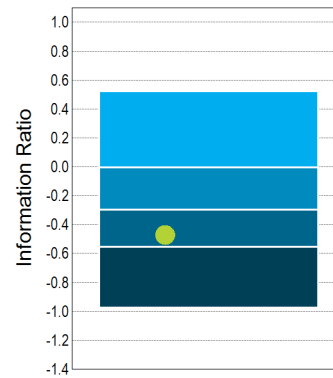
- TIAA-CREF High-Yield I

Tracking Error



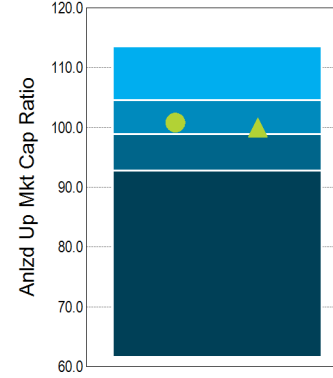
- ▲ ICE BofA BB-B US High Yield Constrained TR

Information Ratio



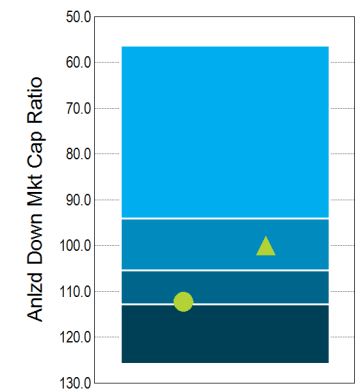
- TIAA-CREF High-Yield I

Anlzd Up Mkt Cap Ratio



- TIAA-CREF High-Yield I

Anlzd Down Mkt Cap Ratio



- TIAA-CREF High-Yield I

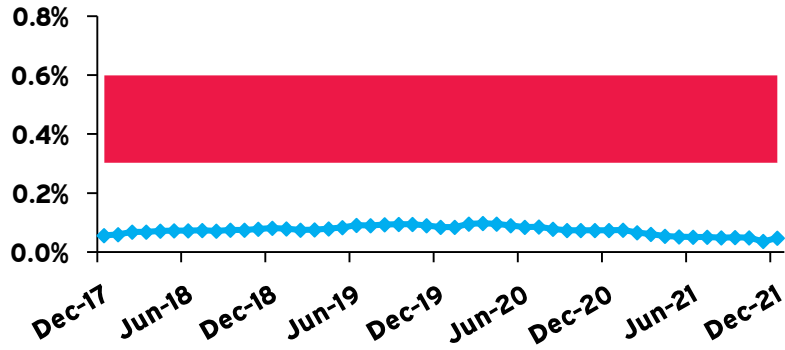
Fund Characteristics as of November 30, 2021		Top Holdings as of November 30, 2021		Fixed Income Sectors as of November 30, 2021	
Sharpe Ratio (3 Year)	0.51	FEDERAL HOME LOAN BANKS 0.01%	2.76%	GOVERNMENT	0.00%
Average Duration	4.03	IMOLA MERGER CORPORATION 4.75%	1.54%	MUNICIPAL	0.00%
Average Coupon	4.88%	TENET HEALTHCARE CORPORATION 4.375%	0.94%	CORPORATE	96.30%
Average Effective Maturity	6.52	FINASTRA USA, INC. TERM LOAN B	0.85%	SECURITIZED	0.00%
R-Squared (3 Year)	0.98	ALBION FINANCING 1 S A R L & AGGREKO HOLDINGS INCORPORATED 8.75%	0.75%	CASH & EQUIVALENTS	3.70%
Alpha (3 Year)	-0.15%	ALLIED UNIVERSAL HOLDCO LLC / ALLIED UNIVERSAL FINANCE CORPORATION / ATLAS ORGANON & CO 5.125%	0.72%	DERIVATIVE	0.00%
Beta (3 Year)	1.10	OLYMPUS WATER US HOLDING CORPORATION 4.25%	0.68%		
		GATES GLOBAL LLC/GATES GLOBAL CO. 6.25%	0.65%		
		ALTICE FRANCE S.A 5.125%	0.63%		

Credit Quality as of November 30, 2021		Maturities as of November 30, 2021		Top Countries as of November 30, 2021	
AAA	3.70%	1 to 3 Years	2.97%	United States	88.38%
AA	0.00%	3 to 5 Years	23.46%	Canada	3.37%
A	0.00%	5 to 7 Years	37.77%	United Kingdom	2.08%
BBB	0.00%	7 to 10 Years	32.93%	France	1.68%
BB	42.47%	10 to 15 Years	2.25%	Netherlands	1.05%
B	47.49%	15 to 20 Years	0.01%	Germany	0.80%
Below B	4.11%	20 to 30 Years	0.61%	Israel	0.75%
Not Rated	2.23%	Greater than 30 Years	0.00%	Puerto Rico	0.51%
				Zambia	0.47%
				Barbados	0.34%

## Sensitivity Analyses: Passive Funds

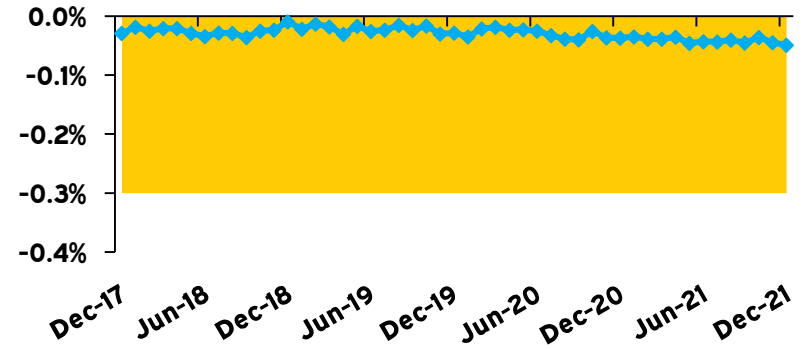


#### Short Term – Rolling 12-Month Tracking Error



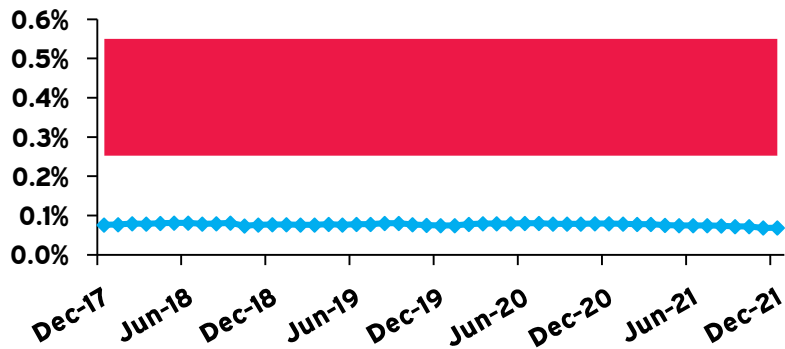
Results fall in the positive range.  
Probationary Threshold 0.30%

#### Long Term – Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.25%

Benchmark: Russell 3000

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Equity Index I	9.2	25.6	25.7	17.9	16.0	11/20/2011
Russell 3000	9.3	25.7	25.8	18.0	16.1	

#### Monitoring Status

Acceptable

### TIAA-CREF Equity Index I | As of December 31, 2021

#### Description:

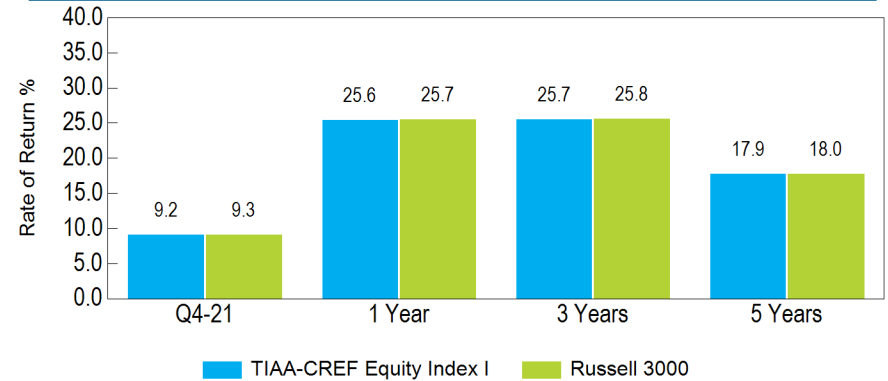
The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities selected to track the overall U.S. equity markets based on a market index.

Under normal circumstances, the fund invests at least 80% of its assets in equity securities of its benchmark index, the Russell 3000® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of its benchmark index.

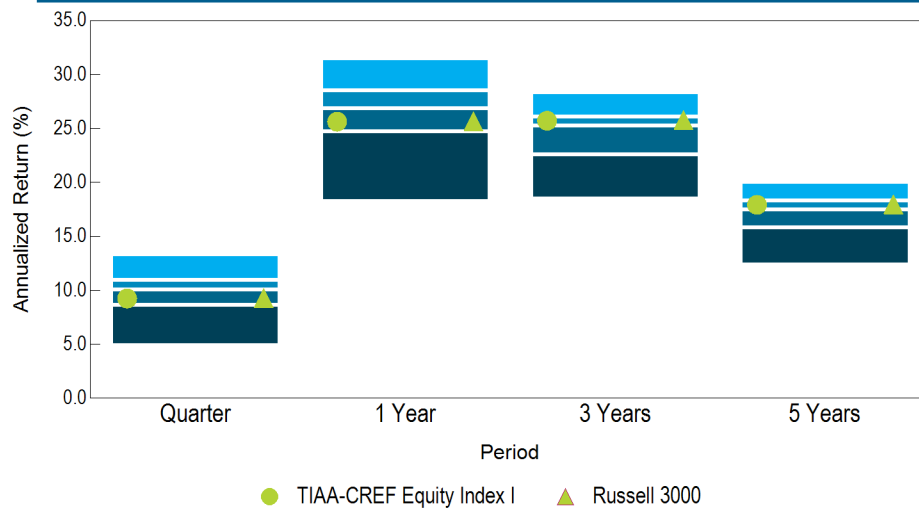
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TIEIX
<b>Morningstar Category</b>	Large Blend
<b>Average Market Cap (\$mm)</b>	131,204.15
<b>Net Assets (\$mm)</b>	12,161.87
<b>% Assets in Top 10 Holdings</b>	25.26
<b>Total Number of Holdings</b>	2,955
<b>Manager Name</b>	Philip James(Jim) Campagna
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.05%
<b>Closed to New Investors</b>	No

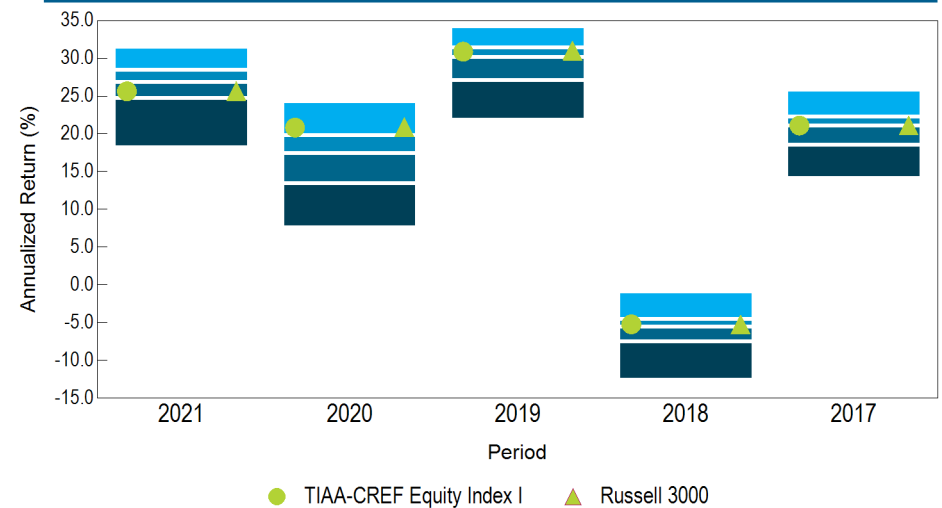
#### Return Summary



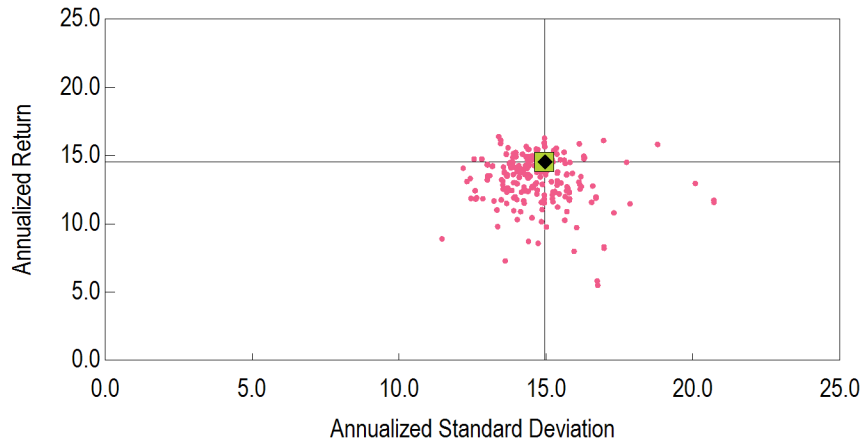
#### Large Blend MStar MF Return Comparison



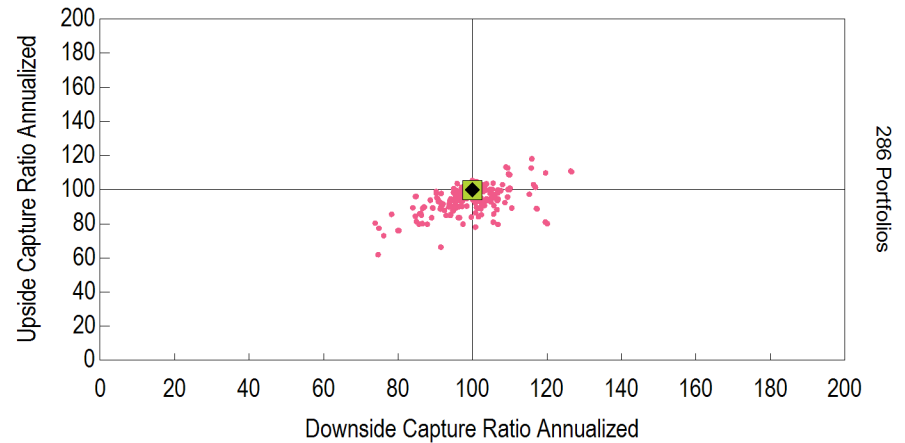
#### Large Blend MStar MF Return Comparison



**Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021**



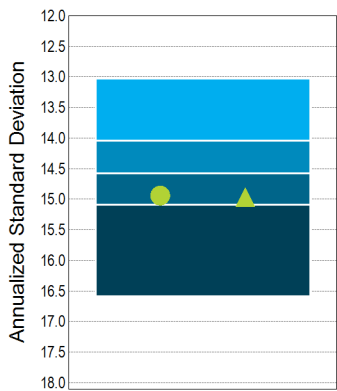
**Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021**



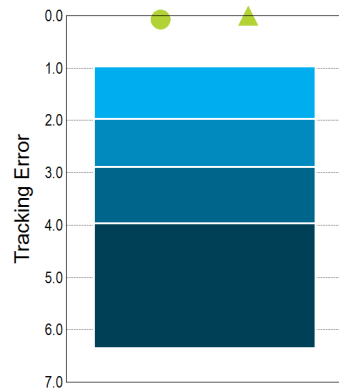
■ TIAA-CREF Equity Index I   ◆ Russell 3000   ● Large Blend MStar MF

■ TIAA-CREF Equity Index I   ◆ Russell 3000   ● Large Blend MStar MF

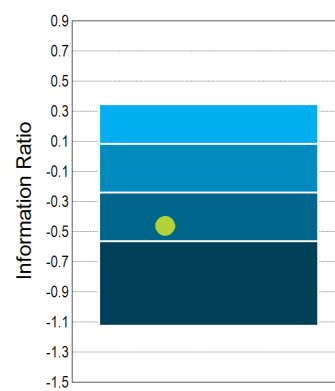
**Annualized Standard Deviation**



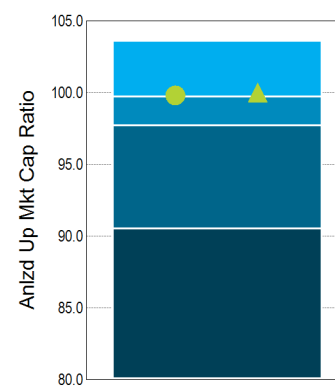
**Tracking Error**



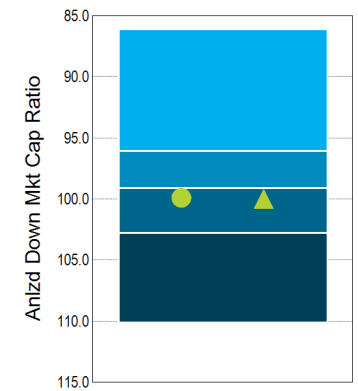
**Information Ratio**



**Anlzd Up Mkt Cap Ratio**



**Anlzd Down Mkt Cap Ratio**



● TIAA-CREF Equity Index I   ▲ Russell 3000   ■ 5th to 25th Percentile   ■ 25th to Median   ■ Median to 75th Percentile   ■ 75th to 95th Percentile

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	1.00
Average Market Cap (\$mm)	131,204.15
Price/Earnings	20.43
Price/Book	3.67
Price/Sales	2.49
Price/Cash Flow	13.61
Dividend Yield	1.38
Number of Equity Holdings	2,942
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.00%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	2.04%
COMMUNICATION SERVICES	9.52%
CONSUMER CYCLICAL	12.61%
CONSUMER DEFENSIVE	5.57%
ENERGY	2.72%
FINANCIAL SERVICES	13.15%
HEALTHCARE	12.96%
INDUSTRIALS	8.84%
REAL ESTATE	3.60%
TECHNOLOGY	26.70%
UTILITIES	2.31%

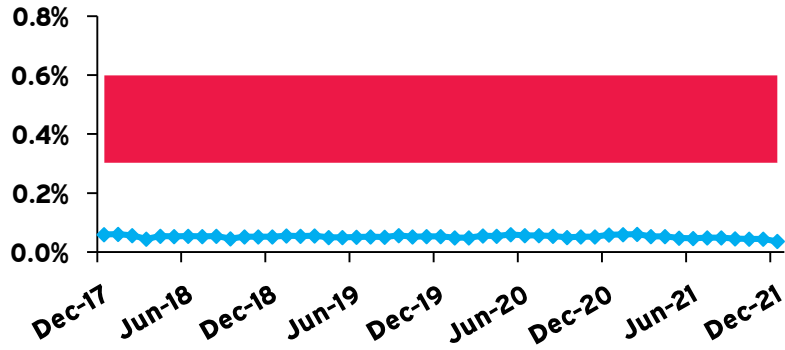
#### Top Holdings as of November 30, 2021

APPLE INC	5.60%
MICROSOFT CORP	5.37%
AMAZON.COM INC	3.28%
TESLA INC	1.97%
ALPHABET INC CLASS A	1.84%
ALPHABET INC CLASS C	1.72%
NVIDIA CORP	1.69%
META PLATFORMS INC CLASS A	1.67%
BERKSHIRE HATHAWAY INC CLASS B	1.11%
JPMORGAN CHASE & CO	1.02%

#### Top Countries as of November 30, 2021

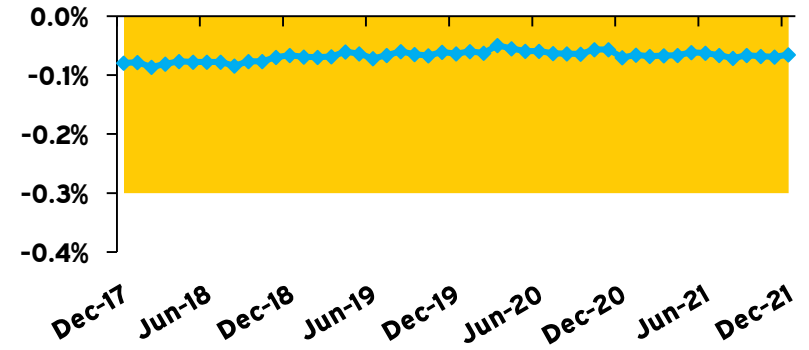
United States	99.36%
Switzerland	0.25%
China	0.18%
United Kingdom	0.10%
Puerto Rico	0.03%
India	0.02%
Israel	0.02%
Brazil	0.01%
Canada	0.01%
Germany	0.01%

#### Short Term – Rolling 12-Month Tracking Error



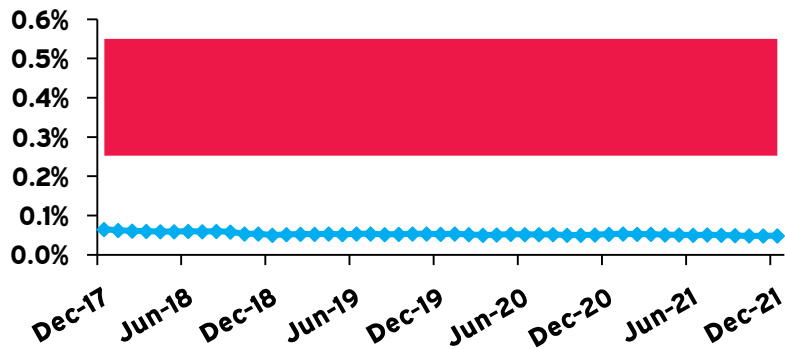
Results fall in the positive range.  
Probationary Threshold 0.30%

#### Long Term – Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.25%

Benchmark: S&P 500

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF S&P 500 Index I	11.0	28.6	26.0	18.4	16.3	11/20/2011
S&P 500	11.0	28.7	26.1	18.5	16.4	

#### Monitoring Status

Acceptable

#### Description:

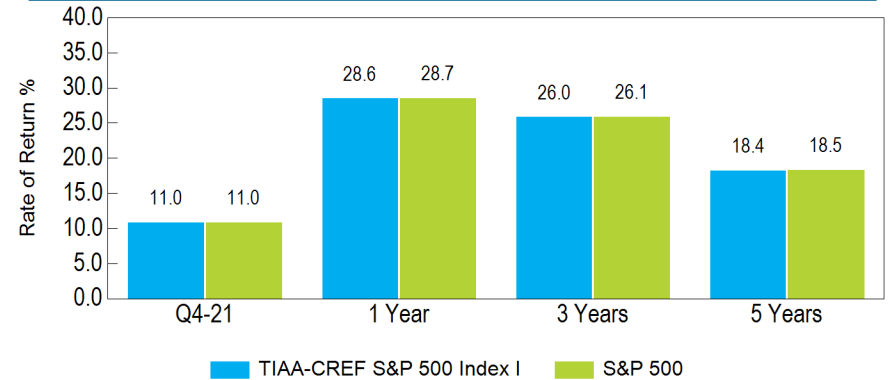
The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of equity securities of large domestic companies selected to track U.S. equity markets based on a market index.

The fund invests at least 80% of its assets in securities of its benchmark index, the S&P 500® Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

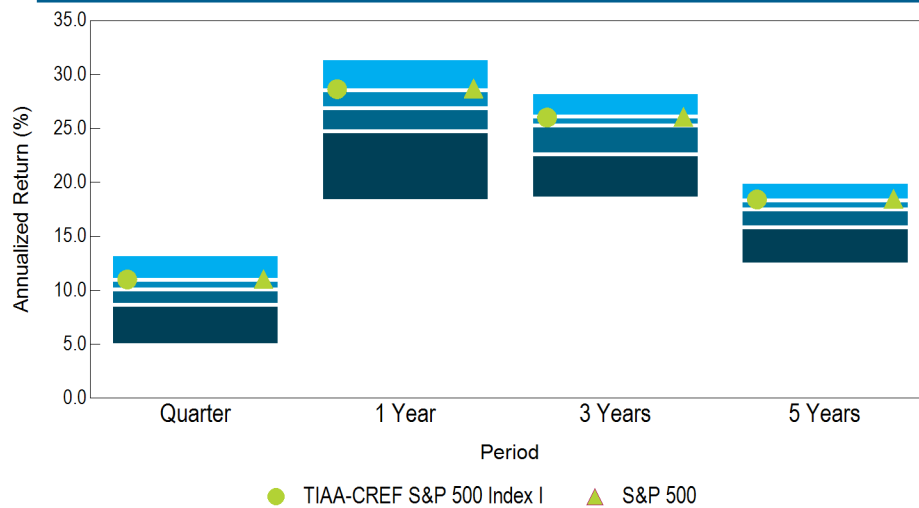
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TISPX
<b>Morningstar Category</b>	Large Blend
<b>Average Market Cap (\$mm)</b>	227,438.59
<b>Net Assets (\$mm)</b>	6,233.91
<b>% Assets in Top 10 Holdings</b>	30.20
<b>Total Number of Holdings</b>	508
<b>Manager Name</b>	Philip James(Jim) Campagna
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.05%
<b>Closed to New Investors</b>	No

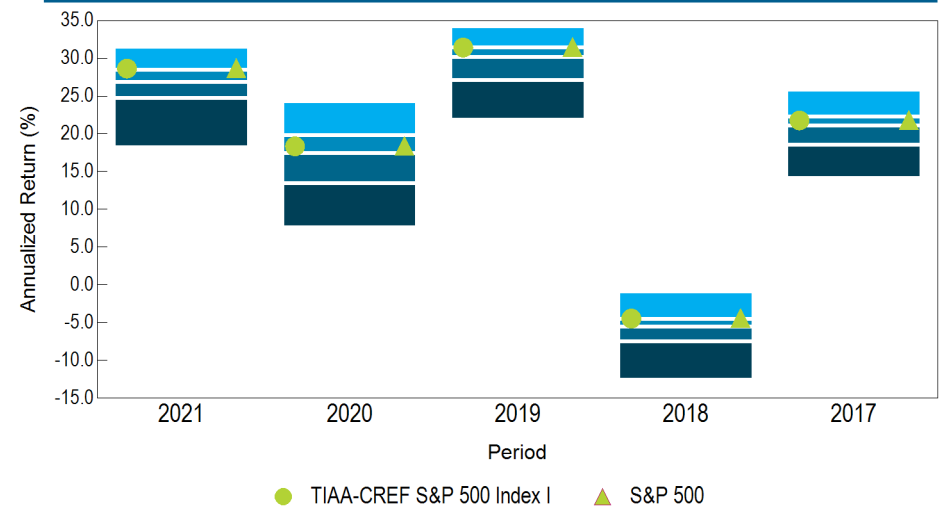
#### Return Summary



#### Large Blend MStar MF Return Comparison

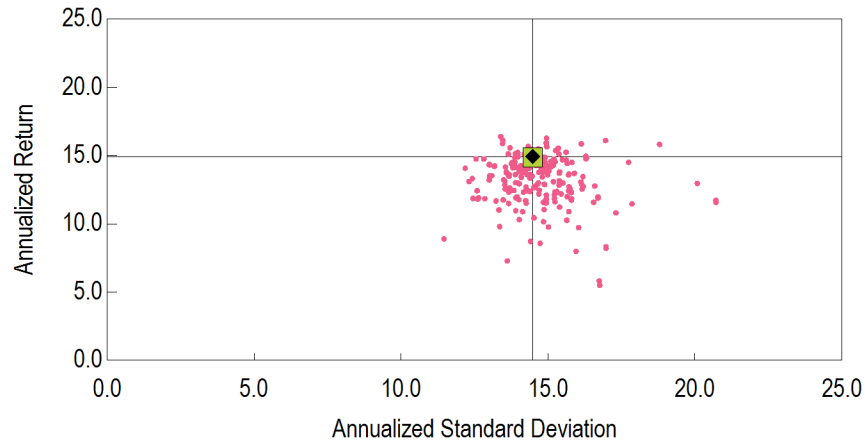


#### Large Blend MStar MF Return Comparison



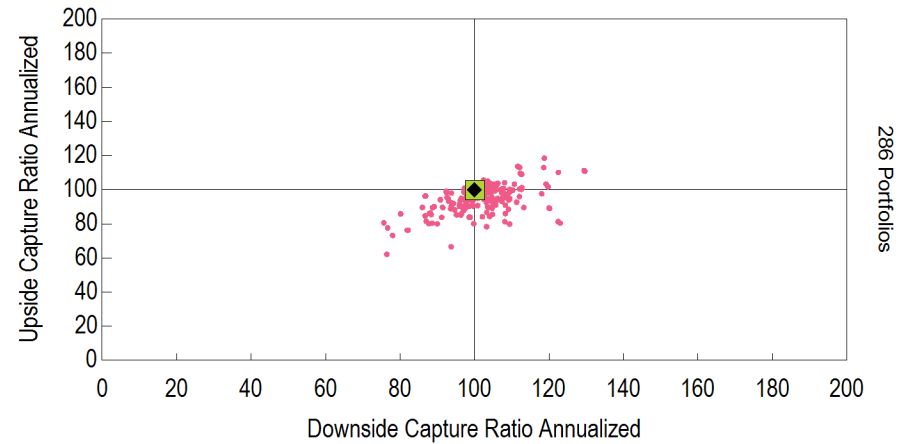
### TIAA-CREF S&P 500 Index I | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



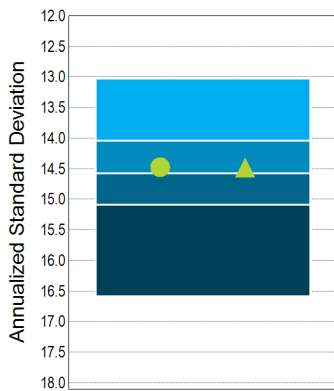
■ TIAA-CREF S&P 500 Index I   ◆ S&P 500   ● Large Blend MStar MF

Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



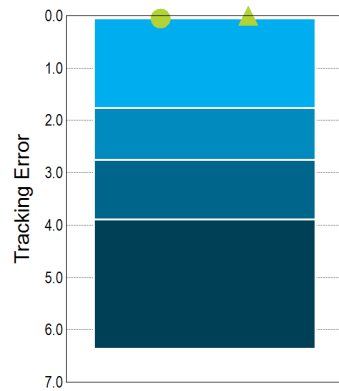
■ TIAA-CREF S&P 500 Index I   ◆ S&P 500   ● Large Blend MStar MF

Annualized Standard Deviation

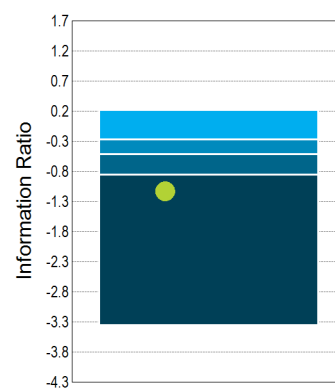


● TIAA-CREF S&P 500 Index I   ▲ S&P 500

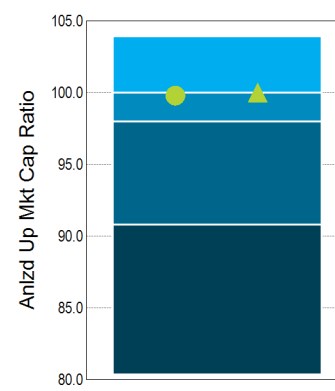
Tracking Error



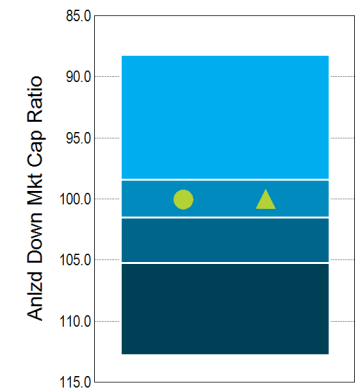
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



■ 5th to 25th Percentile   ■ 25th to Median   ■ Median to 75th Percentile   ■ 75th to 95th Percentile

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	1.05
Average Market Cap (\$mm)	227,438.59
Price/Earnings	20.98
Price/Book	4.01
Price/Sales	2.75
Price/Cash Flow	14.48
Dividend Yield	1.47
Number of Equity Holdings	505
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.00%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	2.19%
COMMUNICATION SERVICES	10.36%
CONSUMER CYCLICAL	12.88%
CONSUMER DEFENSIVE	6.04%
ENERGY	2.71%
FINANCIAL SERVICES	12.97%
HEALTHCARE	12.80%
INDUSTRIALS	8.12%
REAL ESTATE	2.62%
TECHNOLOGY	26.93%
UTILITIES	2.37%

#### Top Holdings as of November 30, 2021

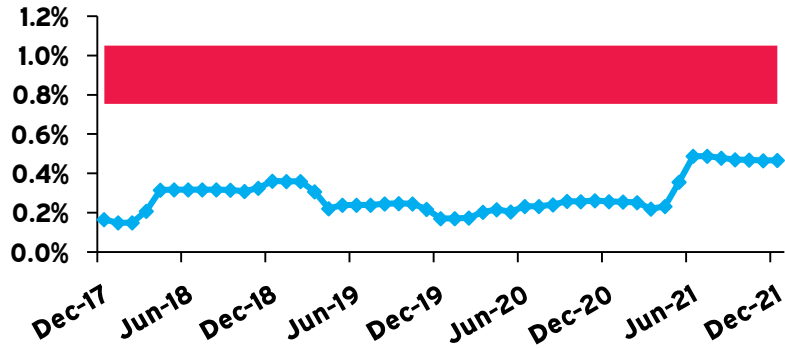
APPLE INC	6.66%
MICROSOFT CORP	6.37%
AMAZON.COM INC	3.92%
TESLA INC	2.38%
ALPHABET INC CLASS A	2.19%
NVIDIA CORP	2.09%
ALPHABET INC CLASS C	2.06%
META PLATFORMS INC CLASS A	1.98%
BERKSHIRE HATHAWAY INC CLASS B	1.32%
JPMORGAN CHASE & CO	1.22%

#### Top Countries as of November 30, 2021

United States	98.99%
United Kingdom	0.50%
Switzerland	0.30%
China	0.15%
Singapore	0.05%

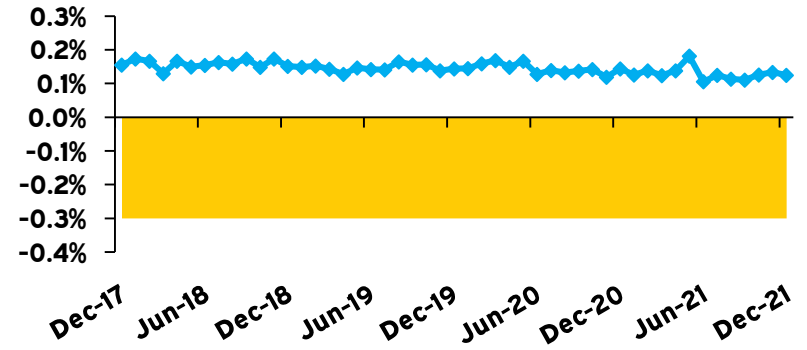


#### Short Term – Rolling 12-Month Tracking Error



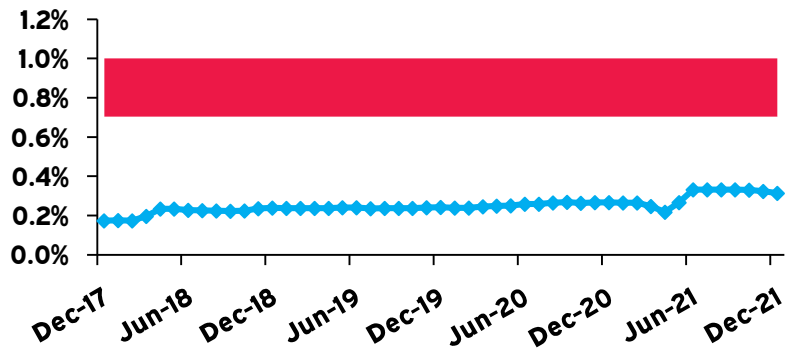
Results fall in the positive range.  
Probationary Threshold 0.75%

#### Long Term – Rolling 60-Month Excess Return



Results fall in the positive range.  
Probationary Threshold -0.30%

#### Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.70%

Benchmark: MSCI EAFE

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF International Equity Index	2.8	11.4	13.7	9.7	7.4	11/20/2011
MSCI EAFE	2.7	11.3	13.5	9.5	7.3	

#### Monitoring Status

Positive

### TIAA-CREF International Equity Index | As of December 31, 2021

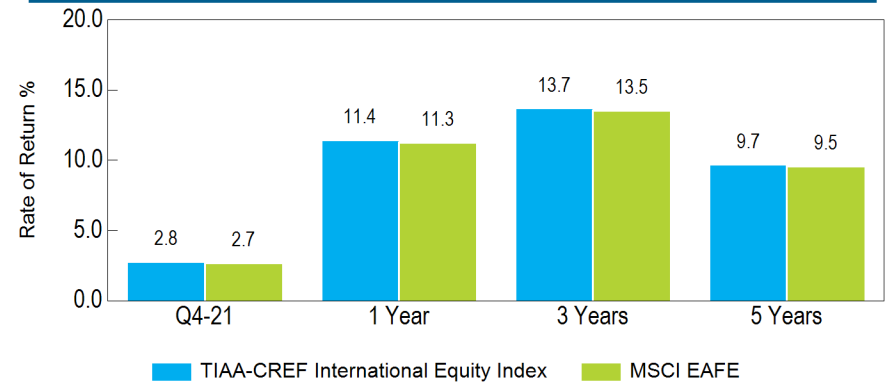
#### Description:

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of foreign equity investments based on a market index. Under normal circumstances, the fund invests at least 80% of its assets in securities of its benchmark index, the MSCI EAFE Index. It buys most, but not necessarily all, of the stocks included in its benchmark index, and the advisor will attempt to closely match the overall investment characteristics of the fund's benchmark index.

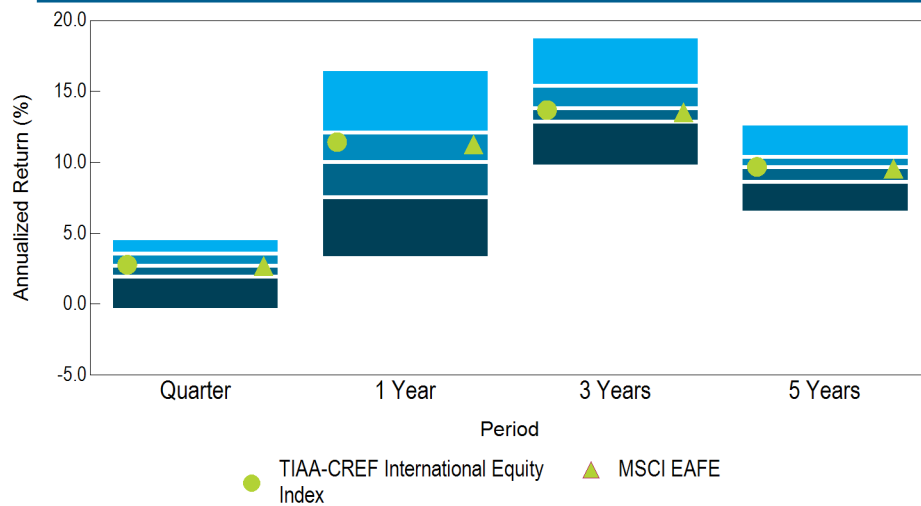
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TCIEX
<b>Morningstar Category</b>	Foreign Large Blend
<b>Average Market Cap (\$mm)</b>	46,849.78
<b>Net Assets (\$mm)</b>	9,408.68
<b>% Assets in Top 10 Holdings</b>	13.52
<b>Total Number of Holdings</b>	853
<b>Manager Name</b>	Philip James(Jim) Campagna
<b>Manager Tenure</b>	16
<b>Expense Ratio</b>	0.05%
<b>Closed to New Investors</b>	No

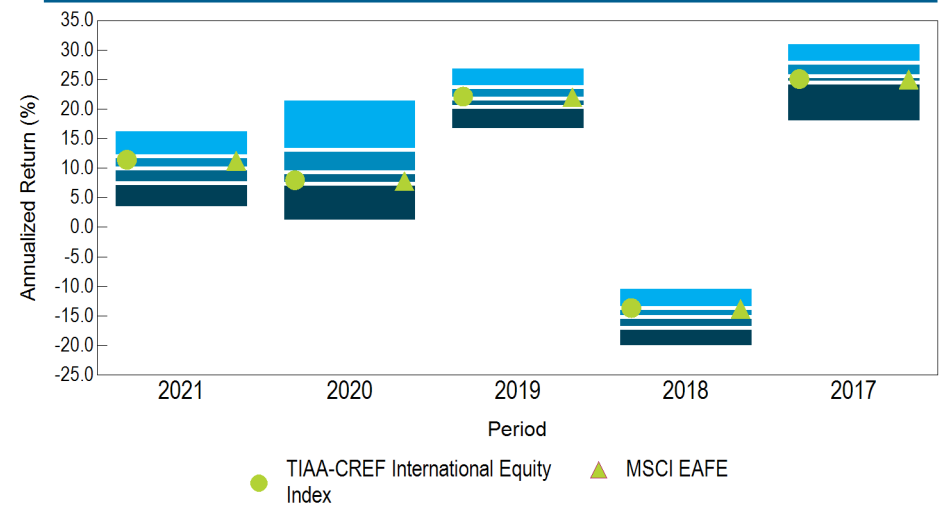
#### Return Summary



#### Foreign Large Blend MStar MF Return Comparison

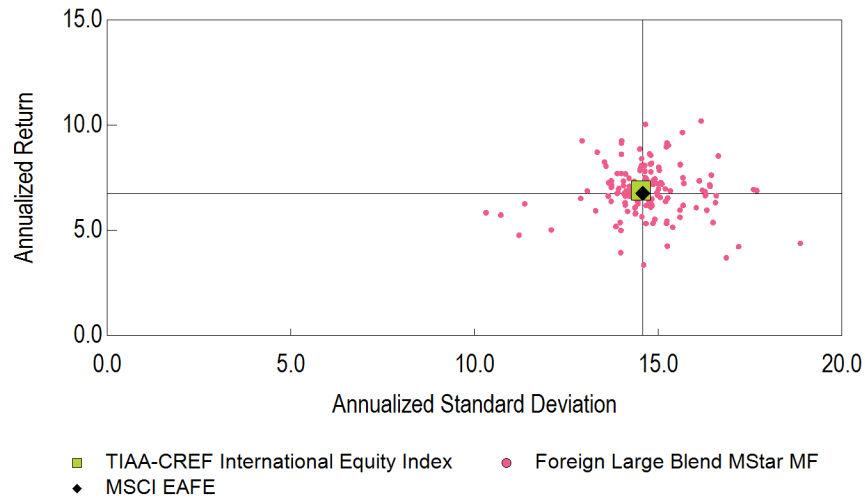


#### Foreign Large Blend MStar MF Return Comparison

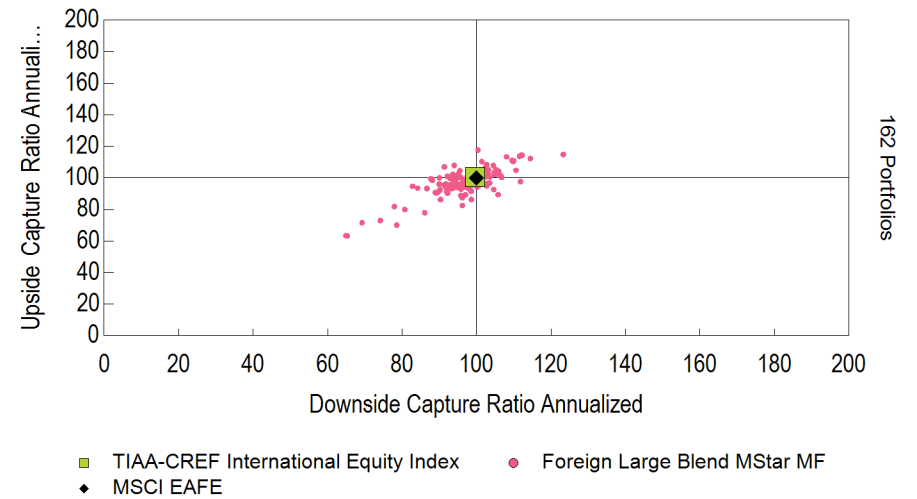


### TIAA-CREF International Equity Index | As of December 31, 2021

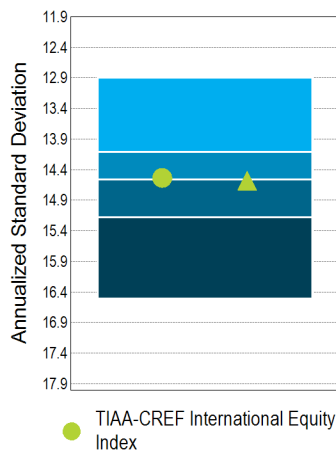
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



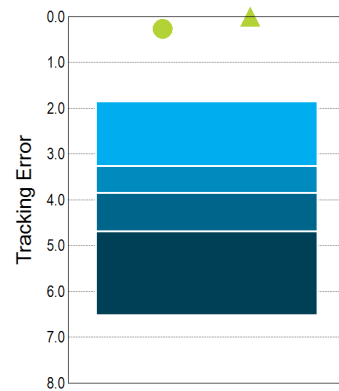
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



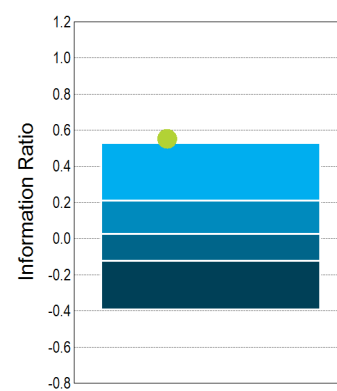
Annualized Standard Deviation



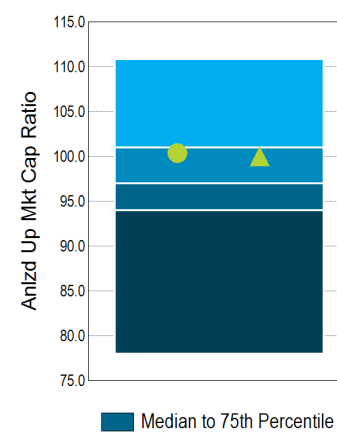
Tracking Error



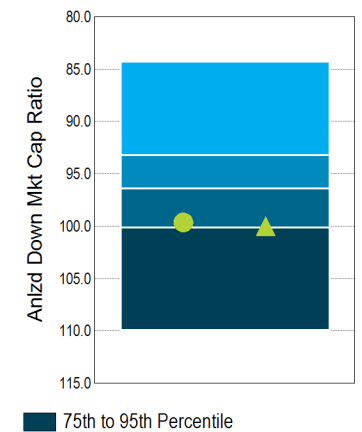
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



### TIAA-CREF International Equity Index | As of December 31, 2021

#### Fund Characteristics as of November 30, 2021

Sharpe Ratio (3 Year)	0.52
Average Market Cap (\$mm)	46,849.78
Price/Earnings	14.35
Price/Book	1.64
Price/Sales	1.36
Price/Cash Flow	7.61
Dividend Yield	2.82
Number of Equity Holdings	833
R-Squared (3 Year)	1.00
Alpha (3 Year)	0.01%

#### Sector Allocation as of November 30, 2021

BASIC MATERIALS	7.54%
COMMUNICATION SERVICES	5.61%
CONSUMER CYCLICAL	11.24%
CONSUMER DEFENSIVE	10.21%
ENERGY	3.64%
FINANCIAL SERVICES	16.77%
HEALTHCARE	13.17%
INDUSTRIALS	15.33%
REAL ESTATE	2.83%
TECHNOLOGY	10.40%
UTILITIES	3.26%

#### Top Holdings as of November 30, 2021

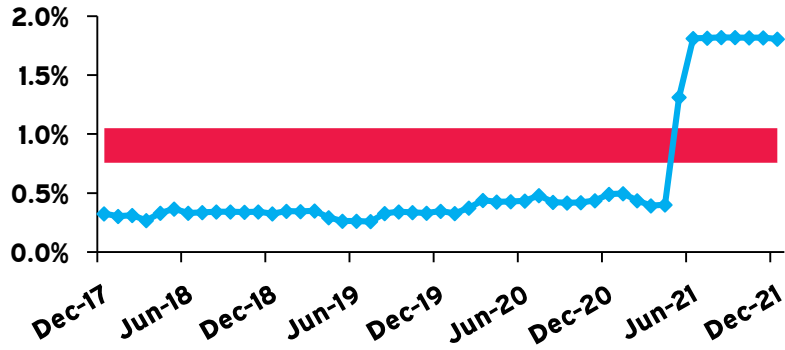
NESTLE SA	2.13%
ASML HOLDING NV	1.92%
ROCHE HOLDING AG	1.62%
FUTURE ON MSCI EAFE DEC21	1.44%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.28%
TOYOTA MOTOR CORP	1.11%
NOVO NORDISK A/S CLASS B	1.07%
NOVARTIS AG	1.03%
ASTRAZENECA PLC	1.00%
SONY GROUP CORP	0.91%

#### Top Countries as of November 30, 2021

Japan	23.13%
United Kingdom	13.75%
France	10.81%
Switzerland	10.55%
Germany	8.69%
Australia	6.67%
Netherlands	5.59%
Sweden	3.69%
Denmark	2.71%
Hong Kong	2.55%

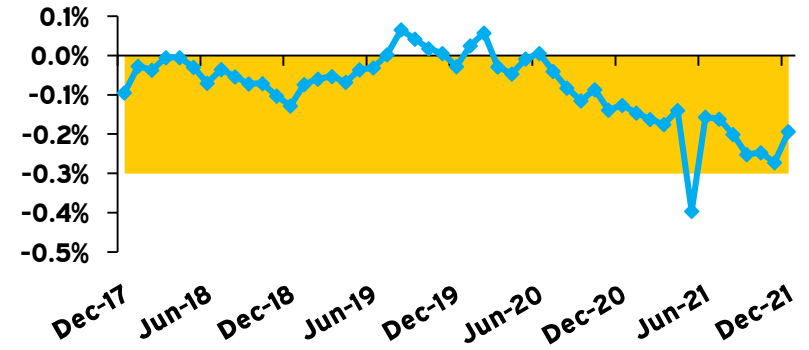
### TIAA-CREF Emerging Markets Equity Index | As of December 31, 2021

#### Short Term – Rolling 12-Month Tracking Error



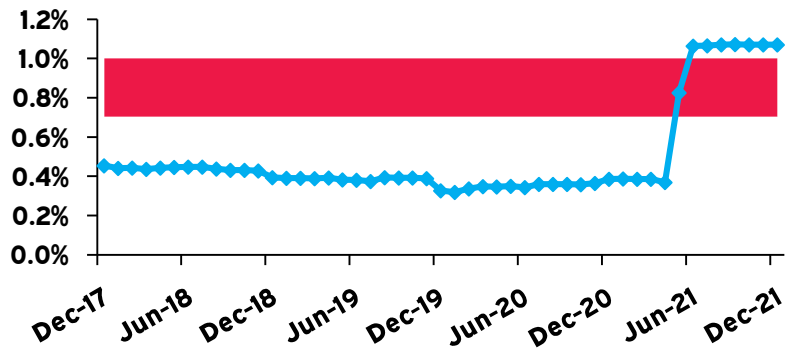
Results fall in the caution range.  
Probationary Threshold 0.75%

#### Long Term – Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.30%

#### Medium Term – Rolling 36-Month Tracking Error



Results fall in the caution range.  
Probationary Threshold 0.70%

Benchmark: MSCI Emerging Markets

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Emerging Markets Equity Index	-1.3	-2.9	10.7	9.7	4.3	11/20/2011
MSCI Emerging Markets	-1.3	-2.5	10.9	9.9	4.6	

#### Monitoring Status

Caution

### TIAA-CREF Emerging Markets Equity Index | As of December 31, 2021

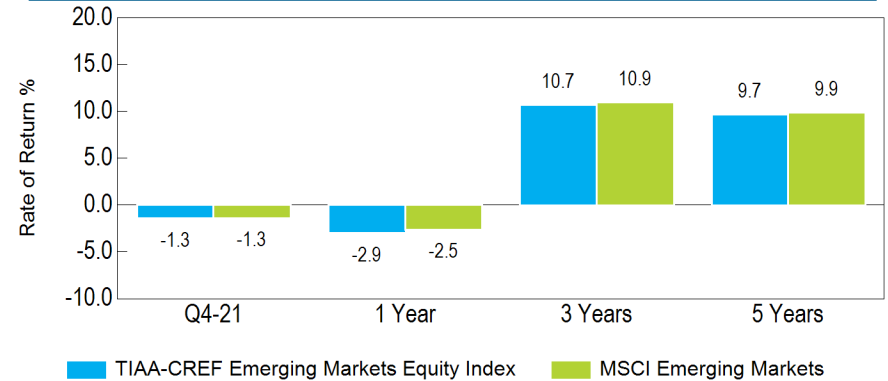
#### Description:

The investment seeks a favorable long-term total return, mainly through capital appreciation, by investing primarily in a portfolio of emerging market equity investments based on a market index. Under normal circumstances, the fund invests at least 80% of its assets in equity securities that comprise its benchmark index, the MSCI Emerging Markets® Index ("MSCI EM Index"), or in instruments with economic characteristics similar to all or a portion of the MSCI EM Index. It buys most, but not necessarily all, of the stocks in its benchmark index, and the advisor will attempt to closely match the overall investment attributes of the fund's benchmark index.

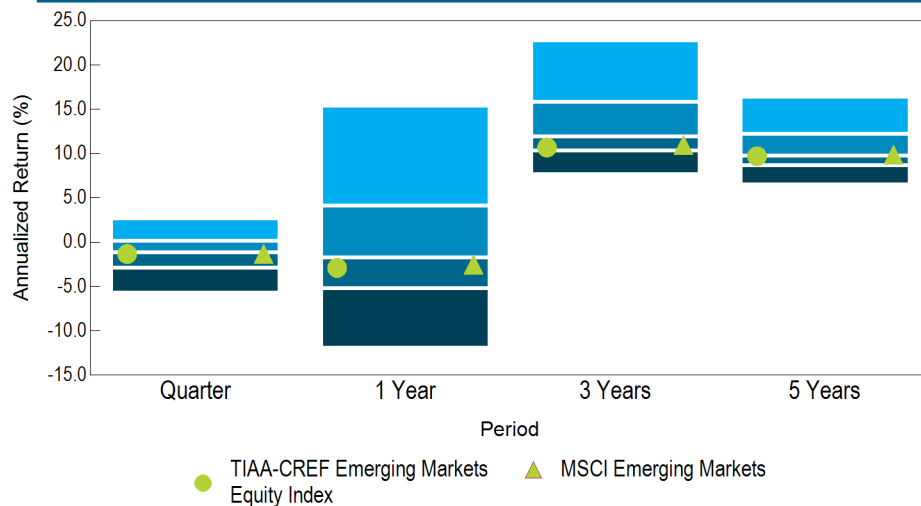
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TEQLX
<b>Morningstar Category</b>	Diversified Emerging Mkts
<b>Average Market Cap (\$mm)</b>	42,723.87
<b>Net Assets (\$mm)</b>	1,126.09
<b>% Assets in Top 10 Holdings</b>	23.45
<b>Total Number of Holdings</b>	1,449
<b>Manager Name</b>	Philip James (Jim) Campagna
<b>Manager Tenure</b>	11
<b>Expense Ratio</b>	0.20%
<b>Closed to New Investors</b>	No

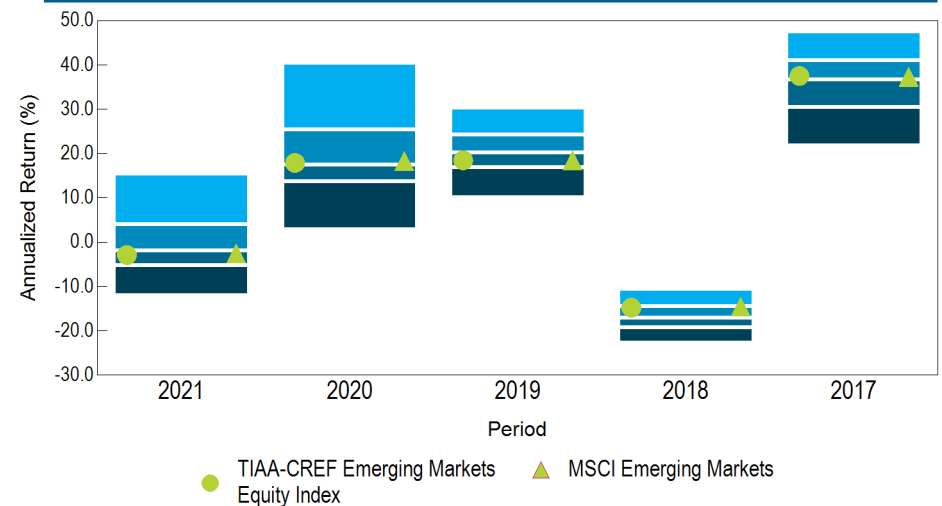
#### Return Summary



#### Diversified Emerging Mkts MStar MF Return Comparison

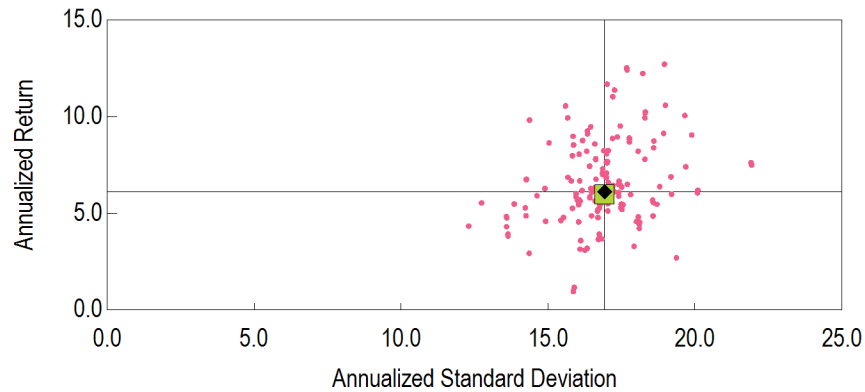


#### Diversified Emerging Mkts MStar MF Return Comparison

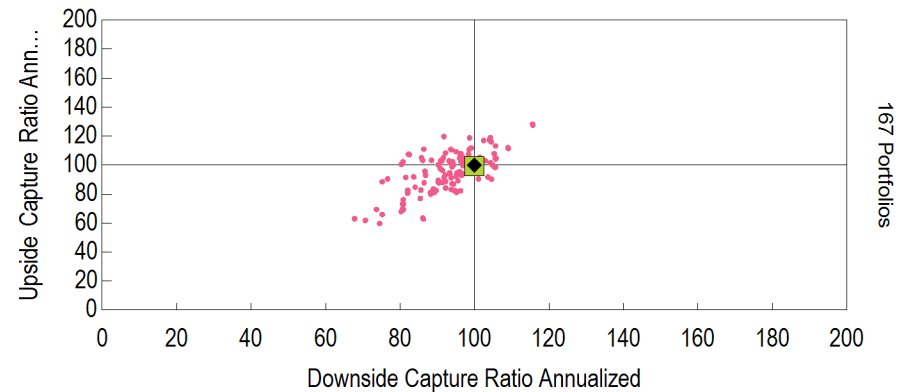


### TIAA-CREF Emerging Markets Equity Index | As of December 31, 2021

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



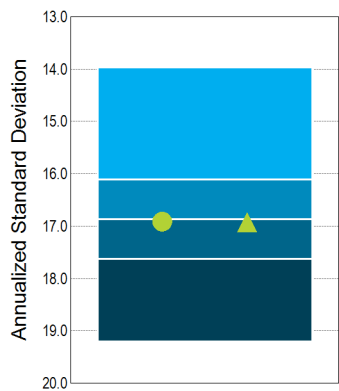
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



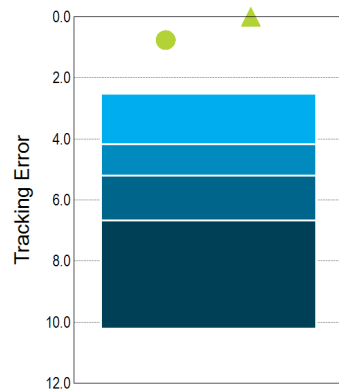
- TIAA-CREF Emerging Markets Equity Index
- ◆ MSCI Emerging Markets
- Diversified Emerging Mkts MStar MF

- TIAA-CREF Emerging Markets Equity Index
- ◆ MSCI Emerging Markets
- Diversified Emerging Mkts MStar MF

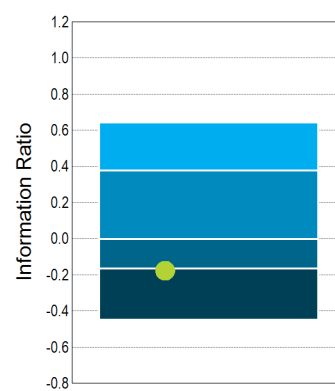
Annualized Standard Deviation



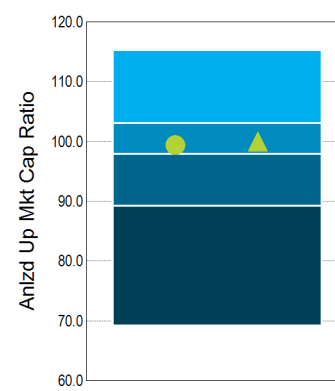
Tracking Error



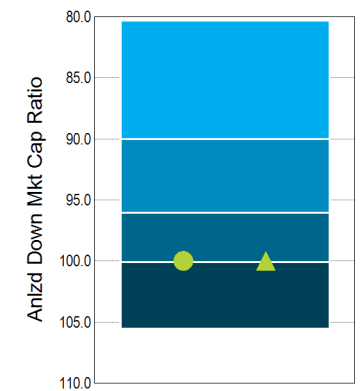
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



- TIAA-CREF Emerging Markets Equity Index
- ▲ MSCI Emerging Markets
- 5th to 25th Percentile
- 25th to Median
- Median to 75th Percentile
- 75th to 95th Percentile

TIAA-CREF Emerging Markets Equity Index | As of December 31, 2021

**Fund Characteristics as of November 30, 2021**

Sharpe Ratio (3 Year)	0.43
Average Market Cap (\$mm)	42,723.87
Price/Earnings	11.81
Price/Book	1.63
Price/Sales	1.41
Price/Cash Flow	6.27
Dividend Yield	3.20
Number of Equity Holdings	1,423
R-Squared (3 Year)	1.00
Alpha (3 Year)	-0.02%

**Sector Allocation as of November 30, 2021**

BASIC MATERIALS	8.34%
COMMUNICATION SERVICES	11.41%
CONSUMER CYCLICAL	13.98%
CONSUMER DEFENSIVE	5.65%
ENERGY	5.54%
FINANCIAL SERVICES	19.21%
HEALTHCARE	4.77%
INDUSTRIALS	5.00%
REAL ESTATE	1.99%
TECHNOLOGY	21.86%
UTILITIES	2.26%

**Top Holdings as of November 30, 2021**

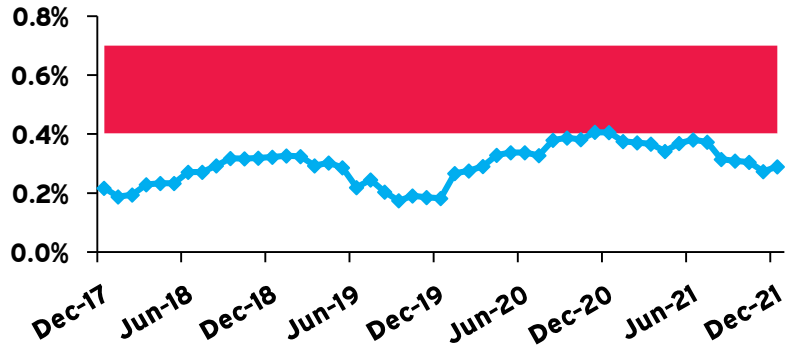
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	6.48%
TENCENT HOLDINGS LTD	4.16%
SAMSUNG ELECTRONICS CO LTD	3.55%
ALIBABA GROUP HOLDING LTD ORDINARY SHARES	3.00%
MEITUAN CLASS B	1.54%
RELIANCE INDUSTRIES LTD	1.13%
INFOSYS LTD	0.96%
FUTURE ON MSCI EMERGING MARKET DEC21	0.95%
JD.COM INC ADR	0.90%
TENNESSEE VALLEY AUTHORITY	0.01%

**Top Countries as of November 30, 2021**

China	33.40%
Taiwan	15.44%
South Korea	12.38%
India	12.23%
Brazil	4.00%
Russia	3.59%
Saudi Arabia	3.23%
South Africa	3.05%
Mexico	1.85%
Thailand	1.51%

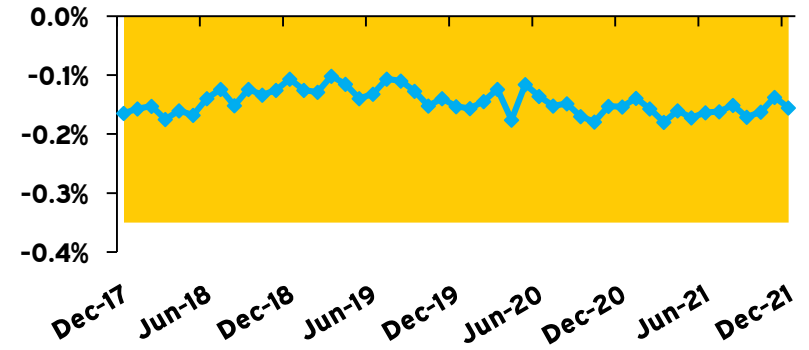


#### Short Term – Rolling 12-Month Tracking Error



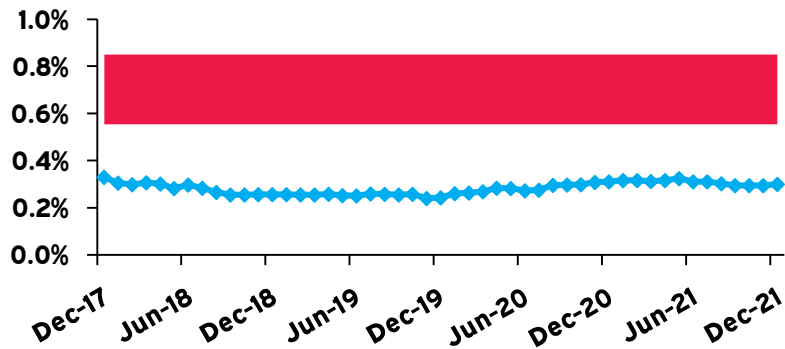
Results fall in the positive range.  
Probationary Threshold 0.40%

#### Long Term – Rolling 60-Month Excess Return



Results fall in the acceptable range.  
Probationary Threshold -0.35%

#### Medium Term – Rolling 36-Month Tracking Error



Results fall in the positive range.  
Probationary Threshold 0.55%

Benchmark: Bloomberg US Aggregate TR

#### Portfolio Performance Summary

	Qtr (%)	1 YR (%)	3 YR (%)	5 YR (%)	Incep (%)	Incep Date
TIAA-CREF Bond Index I	-0.2	-1.8	4.6	3.4	2.8	11/20/2011
Bloomberg US Aggregate TR	0.0	-1.5	4.8	3.6	3.0	

#### Monitoring Status

Acceptable

#### Description:

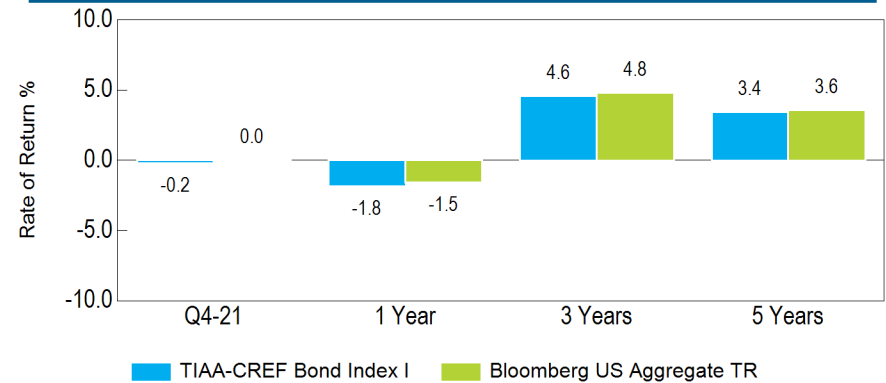
The investment seeks total return that corresponds with the total return of the Bloomberg Barclays U.S. Aggregate Bond Index.

The fund invests at least 80% of its assets in bonds within its benchmark and portfolio tracking index, the Bloomberg Barclays U.S. Aggregate Bond Index. The securities purchased by the fund will mainly be high-quality instruments rated in the top four credit categories by Moody's or S&P or deemed to be of the same quality by the advisors using its own credit quality analysis.

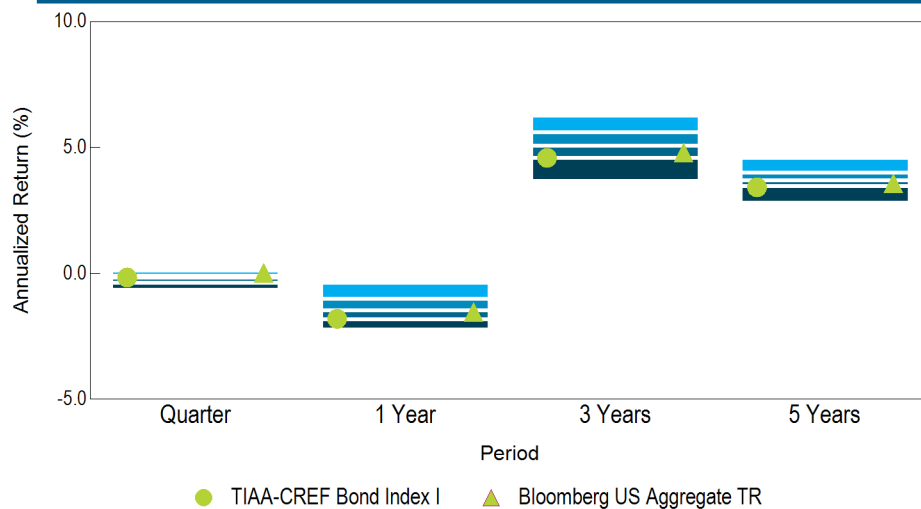
#### Portfolio Fund Information as of November 30, 2021

<b>Ticker</b>	TBIX
<b>Morningstar Category</b>	Intermediate Core Bond
<b>Average Market Cap (\$mm)</b>	
<b>Net Assets (\$mm)</b>	10,185.16
<b>% Assets in Top 10 Holdings</b>	9.89
<b>Total Number of Holdings</b>	8,006
<b>Manager Name</b>	Lijun (Kevin) Chen
<b>Manager Tenure</b>	12
<b>Expense Ratio</b>	0.08%
<b>Closed to New Investors</b>	No

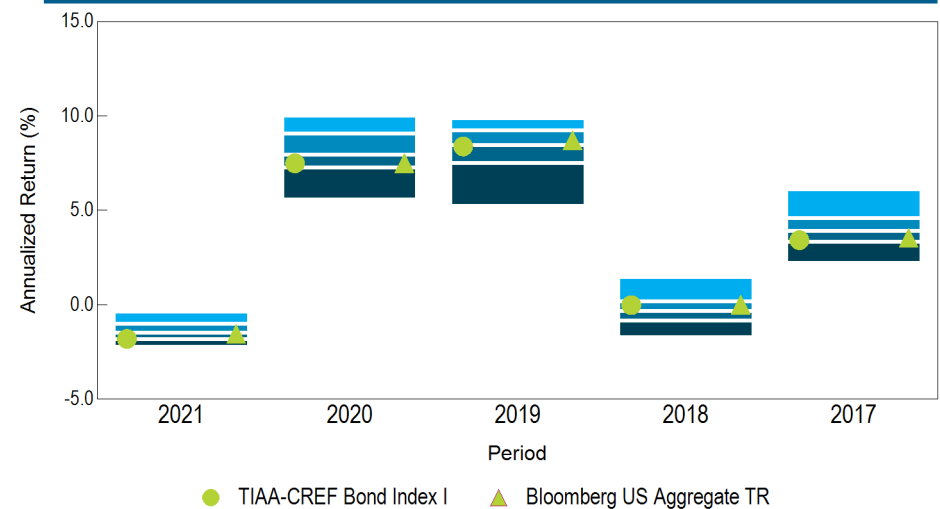
#### Return Summary



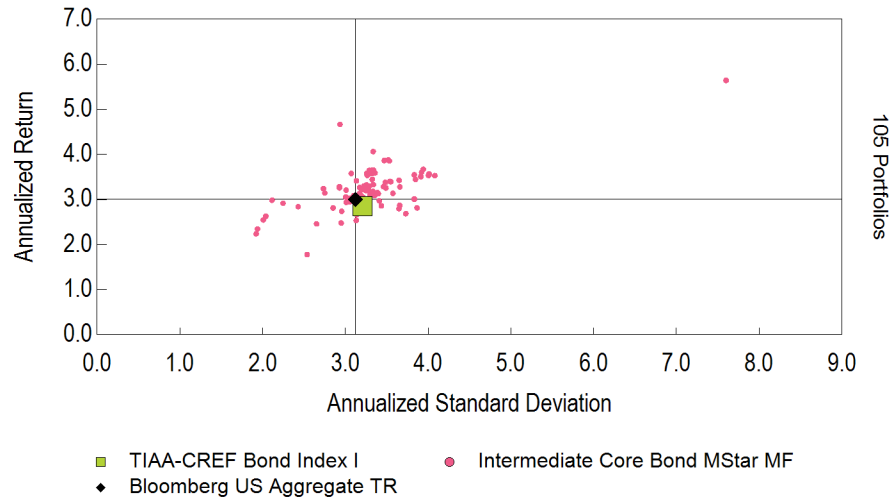
#### Intermediate Core Bond MStar MF Return Comparison



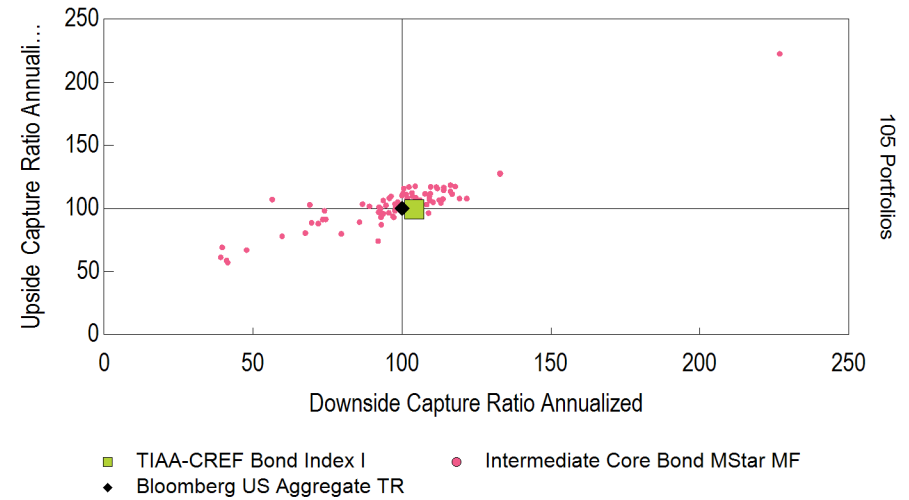
#### Intermediate Core Bond MStar MF Return Comparison



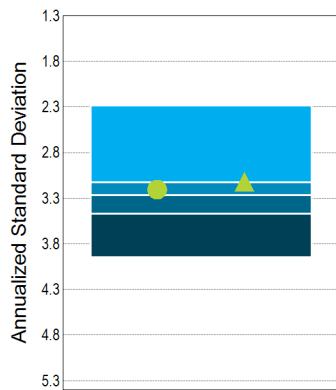
Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2021



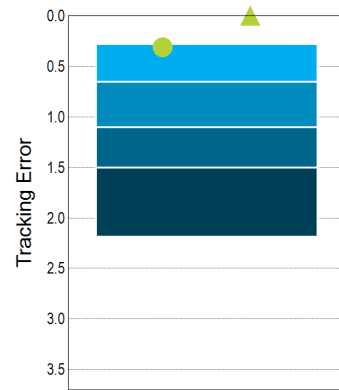
Upside Capture Ratio Annualized vs. Downside Capture Ratio Annualized  
7 Years Ending December 31, 2021



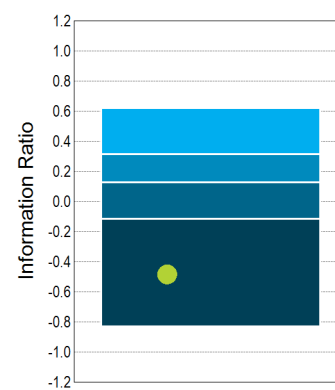
Annualized Standard Deviation



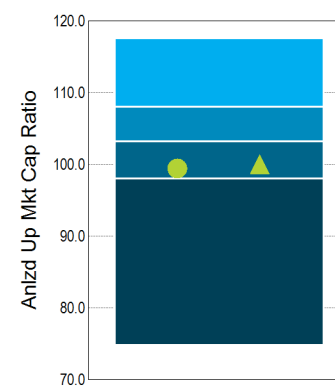
Tracking Error



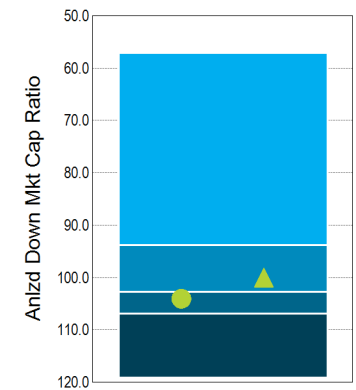
Information Ratio



Anlzd Up Mkt Cap Ratio



Anlzd Down Mkt Cap Ratio



● TIAA-CREF Bond Index I ▲ Bloomberg US Aggregate TR ■ 5th to 25th Percentile ■ 25th to Median ■ Median to 75th Percentile ■ 75th to 95th Percentile

Fund Characteristics as of November 30, 2021		Top Holdings as of November 30, 2021		Fixed Income Sectors as of November 30, 2021	
Sharpe Ratio (3 Year)	1.26	UNITED STATES TREASURY NOTES 2.125%	1.54%	GOVERNMENT	42.31%
Average Duration	6.80	UNITED STATES TREASURY NOTES 0.375%	1.23%	MUNICIPAL	0.77%
Average Coupon	2.48%	UNITED STATES TREASURY BONDS 3.5%	1.05%	CORPORATE	25.95%
Average Effective Maturity	8.64	UNITED STATES TREASURY NOTES 1.75%	1.00%	SECURITIZED	29.27%
R-Squared (3 Year)	0.99	FEDERAL NATIONAL MORTGAGE ASSOCIATION	0.95%	CASH & EQUIVALENTS	1.69%
Alpha (3 Year)	-0.02%	2.5%		DERIVATIVE	0.00%
Beta (3 Year)	1.02	GOVERNMENT NATIONAL MORTGAGE ASSOCIATION 2%	0.93%		
		UNITED STATES TREASURY NOTES 1.125%	0.92%		
		UNITED STATES TREASURY NOTES 2.25%	0.83%		
		UNITED STATES TREASURY NOTES 0.75%	0.74%		
		UNITED STATES TREASURY NOTES 1.75%	0.71%		

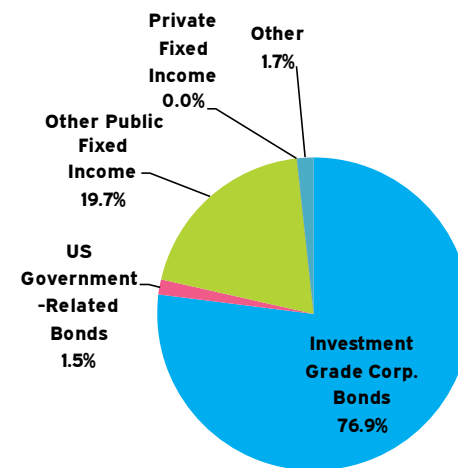
Credit Quality as of November 30, 2021		Maturities as of November 30, 2021		Top Countries as of November 30, 2021	
AAA	71.40%	1 to 3 Years	16.43%	United States	93.06%
AA	3.33%	3 to 5 Years	17.88%	Supranational	1.36%
A	11.31%	5 to 7 Years	6.91%	United Kingdom	0.90%
BBB	13.94%	7 to 10 Years	9.44%	Canada	0.88%
BB	0.00%	10 to 15 Years	4.94%	Japan	0.65%
B	0.00%	15 to 20 Years	7.29%	Germany	0.41%
Below B	0.00%	20 to 30 Years	32.71%	Netherlands	0.39%
Not Rated	0.02%	Greater than 30 Years	4.21%	Mexico	0.31%
				Belgium	0.28%
				South Korea	0.14%

## **Sensitivity Analyses: T-C Life Funding Agreements**

T-C Life Funding Agreements  
(Based on Non-Investment Performance Criteria)<sup>1</sup>

Criteria	Status as of 12/31/2021	Status as of 9/30/2021	Status as of 6/30/2021	Status as of 3/31/2021
<b>Financial Strength</b>	Moody's = Aa1	Moody's = Aa1	Moody's = Aa1	Moody's = Aa1
	Standard & Poor's = AA+	Standard & Poor's = AA+	Standard & Poor's = AA+	Standard & Poor's = AA+
	A.M. Best = A++	A.M. Best = A++	A.M. Best = A++	A.M. Best = A++
	Fitch = AAA	Fitch = AAA	Fitch = AAA	Fitch = AAA
<b>Mortgage Portfolio</b>	100% in Good Standing*	100% in Good Standing*	100% in Good Standing*	100% in Good Standing*
<b>Bond Portfolio</b>	99.5% in Investment Grade (at least 90%)	99.5% in Investment Grade (at least 90%)	99.8% in Investment Grade (at least 90%)	99.8% in Investment Grade (at least 90%)
<b>Account Diversification</b>	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)

\*Portfolio did not contain any commercial mortgages.  
Note, prior-period investment status will shift to the right.  
Source: TIAA-CREF



Monitoring Status

Positive

<sup>1</sup> Status as of 12/31/2021.

## Summary Points

**Summary Points**

	Criteria Utilized for Performance Watch Status			
	On Watch	Short-term	Medium-term	Long-term
T. Rowe Price Instl Large Cap Growth	No	---	---	---
T. Rowe Price Instl Large Cap Value	No	---	---	---
TIAA-CREF Quant Small Cap Equity	No	---	---	---
TIAA-CREF Social Choice Equity	No	---	---	---
TIAA-CREF Real Estate Securities	No	---	---	---
DFA Large Cap International	No	---	---	---
DFA Emerging Markets Core Equity	No	---	---	---
Metropolitan West Total Return Bond	No	---	---	---
PIMCO Real Return	No	---	---	---
PIMCO Income	No	---	---	---
TIAA-CREF Inflation-Linked Bond	No	---	---	---
T. Rowe Price Instl Floating Rate	No	---	---	---
TIAA-CREF High Yield Bond	No	---	---	---
TIAA-CREF Equity Index	No	---	---	---
TIAA-CREF S&P 500 Index	No	---	---	---
TIAA-CREF International Eq Index	No	---	---	---
TIAA-CREF Emerging Markets Eq Index	No	---	---	---
TIAA-CREF Bond Index	No	---	---	---
T-C Life Funding Agreements	No	N/A	N/A	N/A
<b>Total</b>	<b>0 of 19</b>	<b>0 of 18 eligible funds</b>	<b>0 of 18 eligible funds</b>	<b>0 of 18 eligible funds</b>

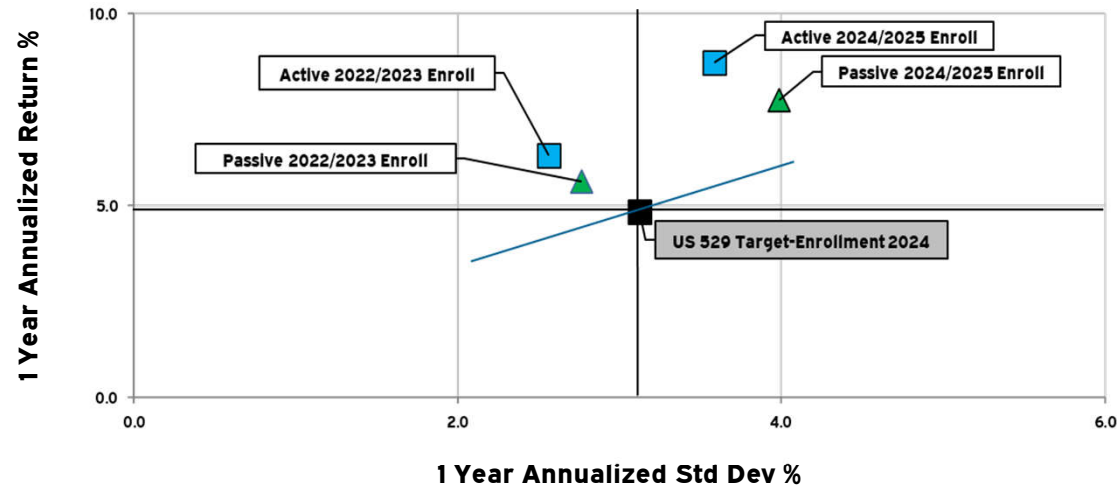
- Performance-based watch status criteria is on a *relative* basis.
  - Absolute results may still be negative.
- Criteria set up to evaluate managers over differing time periods.



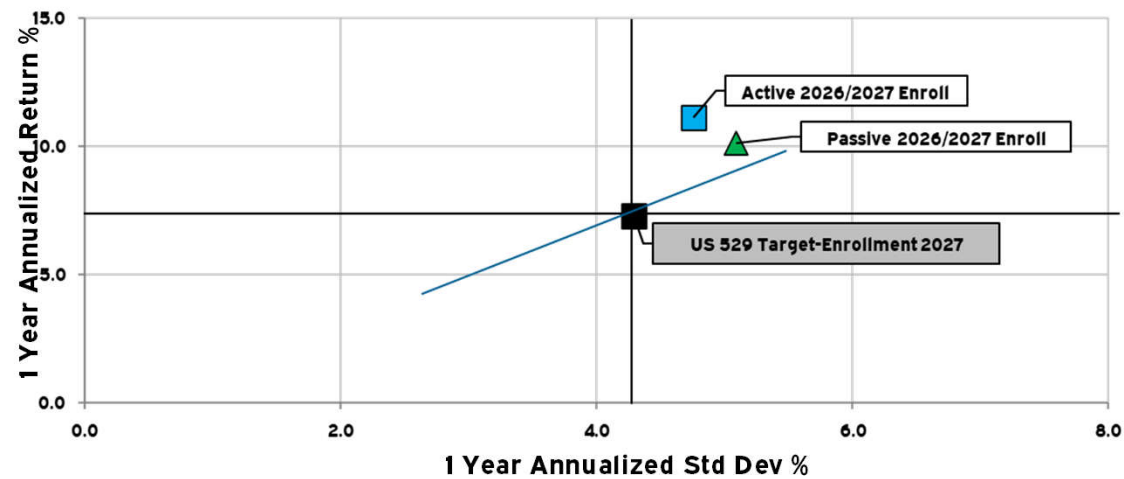
## **Enrollment Date Fund Performance**

Enrollment Date Portfolios Performance

Morningstar Target Date 2024: 1 Year Risk/Return as of 12/31/2021

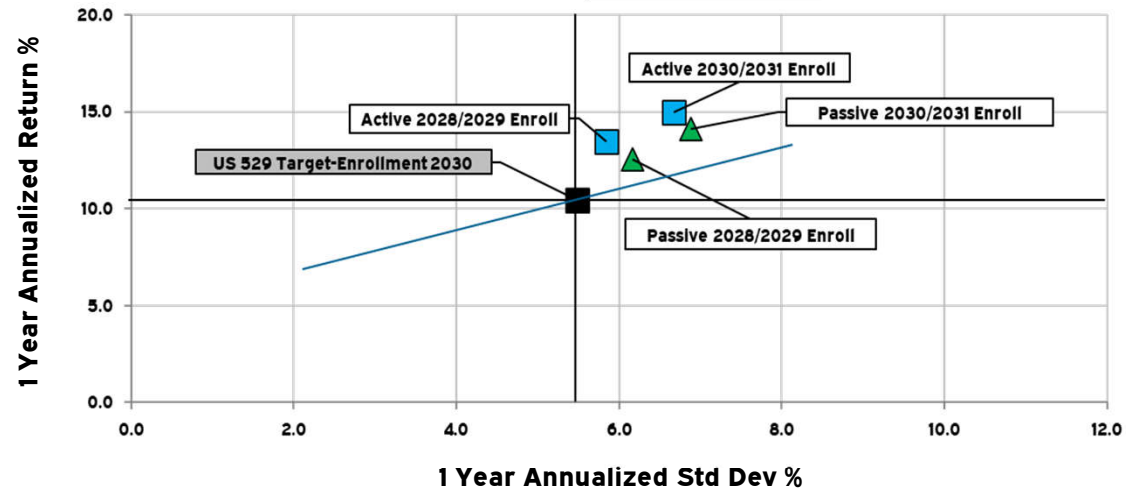


Morningstar Target Date 2027: 1 Year Risk/Return as of 12/31/2021

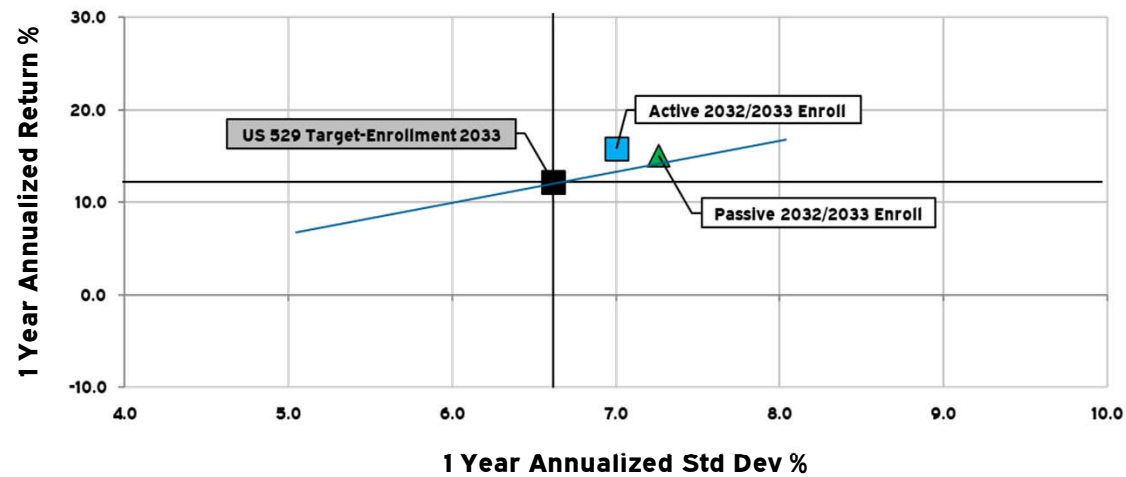


Enrollment Date Portfolios Performance

Morningstar Target Date 2030: 1 Year Risk/Return as of 12/31/2021

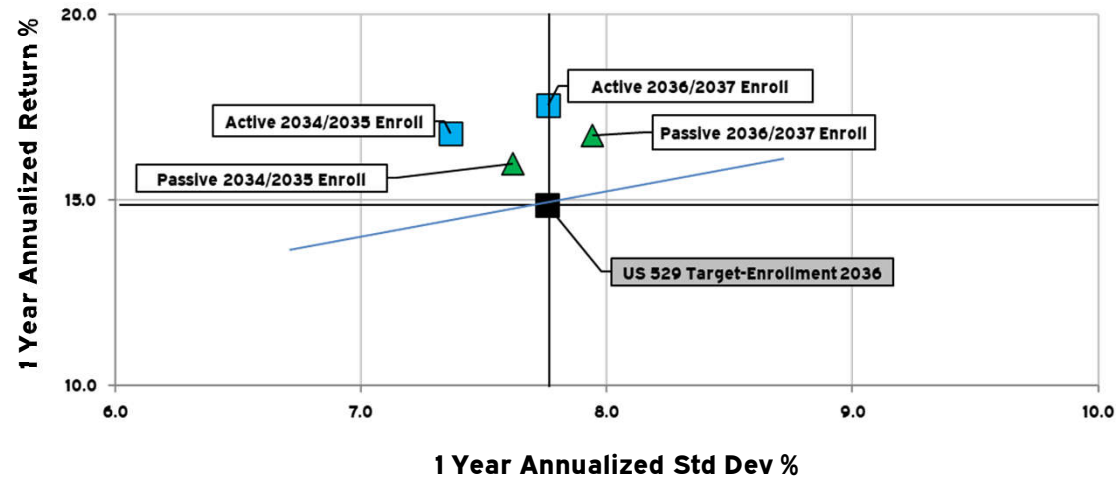


Morningstar Target Date 2033: 1 Year Risk/Return as of 12/31/2021

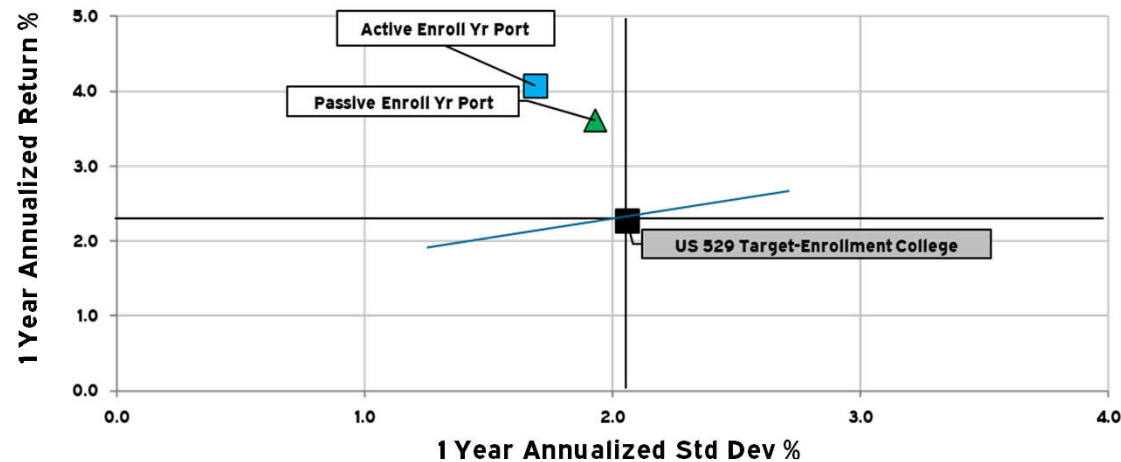


Enrollment Date Portfolios Performance

Morningstar Target Date 2036: 1 Year Risk/Return as of 12/31/2021

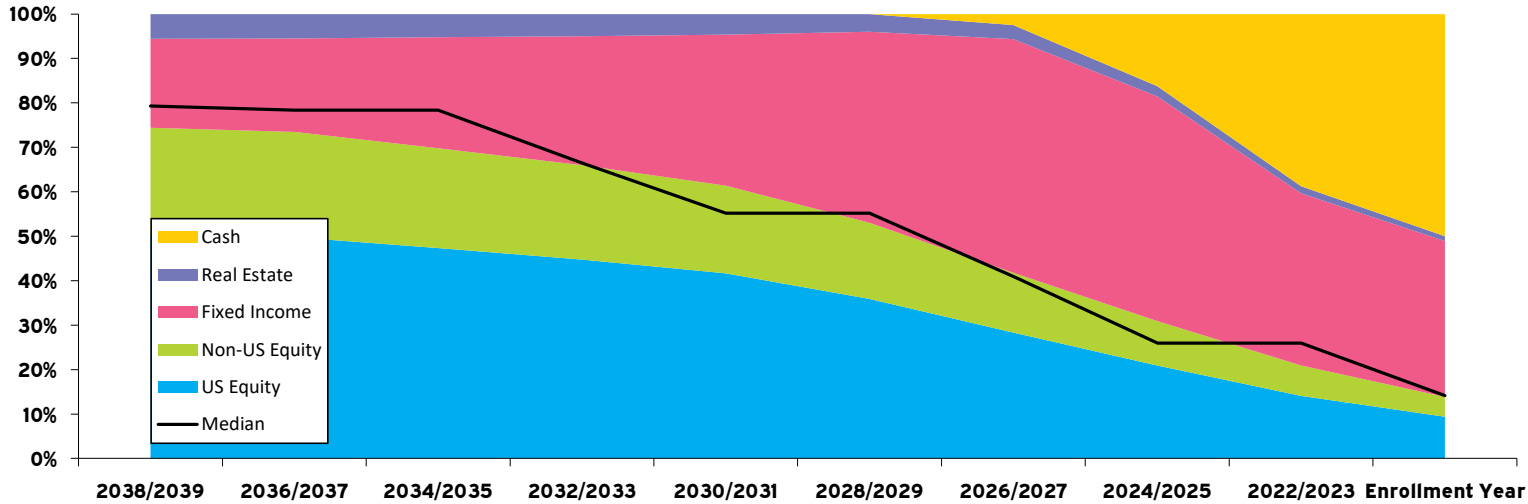


Morningstar Target Date 2039: 1 Year Risk/Return as of 12/31/2021

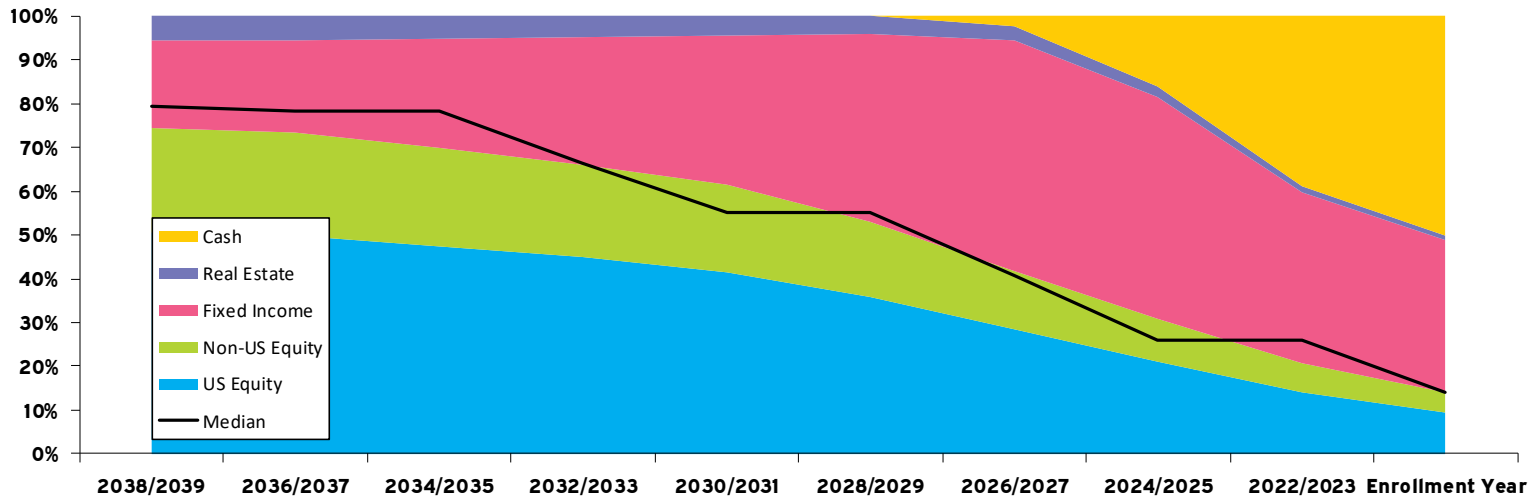


### ScholarShare Enrollment Date Glidepath

#### Active Enrollment Date Portfolio



#### Passive Enrollment Date Portfolio



# Appendix

## Glossary

**Annualized Return** – The average annual return of either the manager or its benchmark.

**Excess Performance** – Manager returns in excess of the benchmark returns.

**Standard Deviation** – A measure of dispersion of a set of data from its mean.

**Excess Standard Deviation** – A measure of the volatility of the average annual difference between the manager's return and the benchmark's return, same as tracking error.

**VRR – Value Relative Ratio** – Is calculated as:  $\text{Manager Cumulative Return} / \text{Benchmark Cumulative Return}$ .

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## MEMORANDUM

**TO:** ScholarShare Investment Board (SIB)  
**FROM:** Eric White, CFA; Kay Ceserani; Inwoo Hwang;  
Meketa Investment Group  
**DATE:** March 16, 2022  
**RE:** Review of Underlying Funds Qualifying for “Watch” Status

### Summary

Meketa Investment Group (“Meketa”) has conducted a review of the underlying funds in the ScholarShare 529 Plan. The review included a quantitative analysis of the underlying funds based on specific performance criteria (as per the *Monitoring Procedures and Criteria*) as well as a qualitative analysis, including a review of organizational concerns, stability of personnel, changes in investment objectives, etc. This memo summarizes the period from October 1, 2021, through December 31, 2021.

At the end of the period, **1 new fund qualifies for “Watch” status and no funds remain on Watch.** Meketa is not recommending watch status for the fund qualifying for watch (TIAA-CREF Emerging Markets Index) as the spike in tracking error qualifying the fund for watch is due to a technical market anomaly.

### Qualifying for Watch

1. TIAA-CREF Emerging Markets Equity Index

### Performance of Funds on Watch Status As of 12/31/2021

Funds on Watch Status	Board Action Date	Watch Status Start Date	No. Months Since Watch Began	Excess Perf. Since Watch Began	Plan Assets (\$mil)	% of Plan Assets
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None

### Background

New Funds Qualifying for “Watch” Status: Meketa has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see also the 4Q2021 ScholarShare 529 Plan Investment Performance Status Report) and determined that 1 new fund qualifies for “Watch” status (TIAA-CREF Emerging Markets Index).

Funds Currently on “Watch” Status: No funds are currently on “Watch” status.

## Discussion

### TIAA-CREF Emerging Markets Equity Index Fund

#### Investment Role in Program

The TIAA-CREF Emerging Markets Equity Index Fund is the only passively managed Emerging Markets Fund in the program. The fund holds a \$205.4M of fund assets.

The TIAA-CREF Emerging Markets Equity Index Fund seeks long-term capital appreciation by investing in a portfolio of emerging markets equity investments based primarily on its benchmark index, the MSCI Emerging Markets Index.

#### History and Organizational Structure

Teachers Advisors, LLC, was founded in 1993 and is a SEC registered investment adviser (RIA). Teachers Advisors provides investment advisory services for TIAA Investments, a division of Nuveen, LLC. Nuveen, LLC is a wholly owned subsidiary of Teachers Insurance and Annuity Association of America.

#### Investment Team

Jim Campagna, Lei Liao and Darren Tran serve as the fund's portfolio managers. Mr. Campagna joined the firm in 2005 and served as the fund's co-portfolio manager since 2010. Mr. Liao joined the firm in 2012 and has served as the fund's co-portfolio manager since 2014. Mr. Tran joined the firm in 2005 and has served as the fund's co-portfolio manager since 2019. Mr. Campagna is the Head of Equity Index Strategies for Nuveen and holds the CFA Designation. Mr. Liao obtained an M.B.A. from the Ross Business School at the University of Michigan and holds the CFA Designation. Mr. Tran graduated from the NYU Tandon School of Engineering with an M.S. in Financial Engineering and holds the CFA Designation.

#### Investment Philosophy and Approach

Under normal circumstances, the fund invests at least 80% of its assets in equity securities that comprise the MSCI Emerging Markets Index or assets with economic characteristics similar to all or a portion of the index. The fund buys most, but not necessarily all of the stocks in its benchmark index and will attempt to closely match the overall investment attributes of its benchmark index. The fund is designed to track various emerging market equity markets as a whole or a segment of these markets.

#### Performance

The fund qualified for "Watch" based on the short-term monitoring criteria, as the fund's tracking error vs. its benchmark has fallen outside of the allowable range for 7 consecutive months. The fund has slightly trailed its benchmark across trailing 1-, 3- and 5-year periods.

### Trailing Performance Results, Net of Fees

Ending December 31, 2021

Fund	Quarter	1 Year	3 Years	5 Years	Since Addition (11/20/2021)
TIAA-CREF Emerging Markets Equity Index	-1.3	-2.9	10.7	9.7	4.3
MSCI Emerging Markets	-1.3	-2.5	10.9	9.9	4.6
<b>Difference</b>	<b>0.0</b>	<b>(0.4)</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>(0.3)</b>
Percentile Rank*	54	58	65	60	-

\*Morningstar Diversified Emerging Markets Universe. 1 = Best, 100 = Worst.

The fund has marginally outperformed the benchmark in the 2 of the last 5 calendar years. Due to the fund's passively managed investment strategy, fund tracks benchmark's performance closely with minimal outperformance/underperformance.

### Calendar Year Performance Results, Net of Fees

Ending December 31, 2021

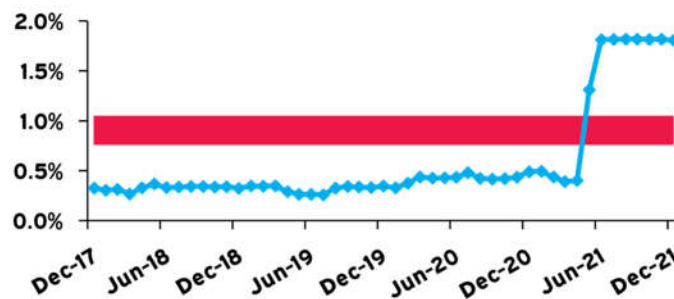
Fund	2016	2017	2018	2019	2020
TIAA-CREF Emerging Markets Equity Index	11.1	37.5	-14.8	18.5	17.9
MSCI Emerging Markets	11.2	37.3	-14.6	18.4	18.3
<b>Difference</b>	<b>(0.1)</b>	<b>0.2</b>	<b>(0.2)</b>	<b>0.1</b>	<b>(0.4)</b>
Percentile Rank*	35	47	31	64	47

\* Morningstar Diversified Emerging Markets Universe. 1 = Best, 100 = Worst.

### Recommendation

The fund's tracking error spiked recently and has now been higher than the criteria for 7 consecutive months, a length sufficient to qualify for watch under the short-term monitoring criteria. The tracking error spike occurred during the Memorial Day holiday (5/28/21 – 6/01/21).

#### Short Term – Rolling 12-Month Tracking Error



Results fall in the caution range.  
Probationary Threshold 0.75%

The spike in tracking error was caused by technical market issue wherein many investment managers were open on the Memorial Day holiday and priced their index funds on that day so that investors could transact in the funds. However, the benchmark was not priced that day as it was a market holiday and benchmarks don't price on market holidays. During that day, emerging market exchanges were open and technology stocks happened to perform particularly well. The situation corrected itself the following day when the benchmark re-priced, but because the tracking error formula is very sensitive, this one-day affect led to a spike in tracking error and will be present for a while given the measurement period for the tracking error calculation. Overall, we have minimal concern over the fund's spike in tracking error and its movement into watch territory; given this was an industry wide phenomenon and not specific to this fund as well as the fact that the issue resolved itself quickly. We anticipate that the tracking error will remain elevated for the time being as the spike is captured in the calculation, but we believe it will moderate over time. We plan to monitor the situation closely to ensure everything evolves the way we expect, but at this time we do not believe any action is warranted. **Meketa, therefore, recommends that the Board forego watch status given that the spike in tracking error was caused by an industry wide technical issue and not something specifically related with this fund.**

EDW/KRC/IH/mp



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